

**TOWN OF NARRAGANSETT
ENGINEERING DEPARTMENT \ WASTEWATER DIVISION**

**REQUEST FOR BIDS
REHABILITATION OF KINNEY AVE. &
NORTH END WATER STORAGE TANKS
CONTRACT & SPECIFICATIONS**

Narragansett, Rhode Island



Susan W. Gallagher, Purchasing Manager
Jeffrey Ceasrine, P.E., Town Engineer

Bid Due Date: September 8, 2015 @ 11:00 AM

TOWN OF NARRAGANSETT, RHODE ISLAND

**CONTRACT AND SPECIFICATIONS
FOR
REHABILITATION OF
KINNEY AVENUE AND NORTH END WATER STORAGE TANKS**

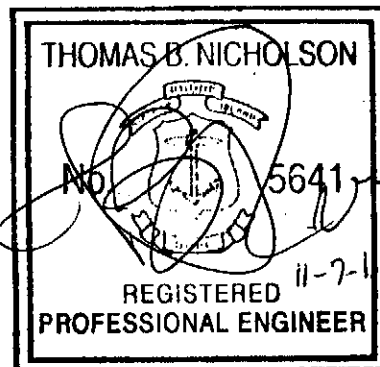
NOVEMBER 2014

Prepared for:

**Town of Narragansett
25 Fifth Avenue
Narragansett, Rhode Island 02882**

Prepared by:

**C&E Engineering Partners, Inc.
342 Park Avenue
Woonsocket, Rhode Island 02895**



C&E Project No. J1034.03

TOWN OF NARRAGANSETT, RHODE ISLAND

**CONTRACT AND SPECIFICATIONS
FOR
REHABILITATION OF
KINNEY AVENUE AND NORTH END WATER STORAGE TANKS**

NOVEMBER 2014

Request for Bids

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INVITATION TO BID

Separate sealed bids will be received by the **TOWN OF NARRAGANSETT, RHODE ISLAND** for **REHABILITATION OF KINNEY AVE. & NORTH END WATER STORAGE TANKS** on or before **11:00 a.m. on Tuesday, September 8, 2015** at the office of the Purchasing Manager, 25 Fifth Avenue, Narragansett, RI and at that time will be opened and read in public.

Specifications may be obtained at the Purchasing Office, 25 Fifth Avenue, Narragansett, Rhode Island between the hours of 8:30 a.m. and 4:30 p.m. **Monday through Friday** and are available on the Town of Narragansett website, www.narragansettri.gov.

All bids must be submitted on the bid form provided, in duplicate and clearly marked:

(Sealed Bid)

REHABILITATION OF KINNEY AVE. & NORTH END WATER STORAGE TANKS

Bids must be enclosed in an opaque envelope addressed to "Purchasing Manager, Town Hall, 25 Fifth Avenue, Narragansett, Rhode Island 02882-3699" bearing the name and address of the bidder.

Bid Security, in the form identified within the Standard Instructions to Bidders, and in the amount of five (5) percent of the total Bid amount, must accompany each Bid.

The successful Bidder must furnish a Performance Bond and a Labor and Material Payment Bond, in the specific formats as attached herein, both for the full value of the Bid Price, along with all required insurance certificates, within fifteen (15) calendar days after the award date in order to execute a Contract.

A pre-bid meeting has been scheduled for Friday, August 21, 2015 at 10:00 AM at the Kinney Avenue Water Storage Tank, 1 Old Point Judith Road, Narragansett, RI.

No bidder may withdraw his/her bid within ninety (90) days after the scheduled closing time for receipt of bid.

The Town of Narragansett reserves the right to reject any/all bids, waive any informalities in the bids received and to accept and award the bid to the lowest qualified bid deemed most favorable to the interest of the Town of Narragansett.

Individuals requesting interpreter services for the hearing impaired must notify the Finance Department (401)782-0644 three business days prior to the bid opening.

Susan W. Gallagher
Purchasing Manager

STANDARD INSTRUCTIONS TO BIDDERS

DEPARTMENT OF FINANCE-PURCHASING DIVISION

TOWN OF NARRAGANSETT, RHODE ISLAND

THESE INSTRUCTIONS ARE STANDARD FOR ALL PROPOSALS ISSUED BY THE PURCHASING DIVISION AND MAY BE DELETED, OR MODIFIED BY INDICATING SUCH CHANGE BY "SPECIAL INSTRUCTIONS TO BIDDERS."

1. Receipt and Opening of Proposal

Sealed proposals (bids) will be accepted in the office of the Purchasing Agent, Town of Narragansett, R.I. until the time indicated on the advertisement for Bids, for the commodities, equipment or services designated in the specifications and will then be publicly opened and read.

2. Form of Bid

Proposal must be submitted on and in accordance with the forms attached hereto, blank places must be filled in as noted, no change shall be made in the phraseology of the proposal or in the item or items mentioned therein, must contain the name and proper address of the bidding firm, and must be signed by a responsible member of the firm with his/her signature and official title. Proposals that are not complete, or contain any omissions, erasures, alterations, additions or contain irregularities of any kind, may be rejected.

3. Submission of Bids

- a. Envelopes containing bids must be sealed and addressed to the office of the Purchasing Manager, Town Hall, Narragansett, R.I. 02882 and must be marked with the name and address of bidder, date and hour of opening, and name of bid.
- b. The Purchasing Manager will decide when the specified time has arrived to open bids, and no bid received thereafter will be considered.
- c. Any bidder may withdraw his/her bid by written request at any time prior to the advertised time for opening. Telephonic bids, amendments, or withdrawals will not be accepted.

- d. Unless otherwise specified, no bid may be withdrawn for a period of ninety (90) days from the date of bid opening.
- e. Negligence on the part of the bidder in preparing the bid confers no rights for the withdrawal of the bid after it has been opened.
- f. Proposals received prior to the time of opening will be securely kept unopened. No responsibility will attach to an officer or person for the premature opening of a proposal not properly addressed and identified.
- g. All bids or proposals that exceed \$500,000 must include an additional copy (beyond the number of copies specified in the Invitation to Bid, Bid Form, or elsewhere within these Contract Documents), submitted by the Bidder, which will be made available for public inspection pursuant to RIGL 37-2-18(j).

4. Prices

Bidders shall state the proposed price in the manner as designated in the Bid Proposal Form. In the event that there is a discrepancy between the unit prices and the extended totals, the unit prices shall govern. In the event there is a discrepancy between the price written in words and written in figures, the prices written in words shall govern.

5. Terms

Cash discounts offered will be considered in determining awards. The discount period shall be computed from the date of delivery or from the correct invoice as received by Town Treasurer, whichever date is later. The date of delivery shall be construed to mean the date on which bid item is determined to meet the specifications and is therefore acceptable. Discounts for a period less than thirty (30) days may not be considered.

6. Rhode Island Sales Tax

The Town is exempt from the payment of R.I. Sales Tax under the 1956 General Laws of the State of Rhode Island, 44-18-30 Paragraph 1, as amended.

7. Federal Excise Taxes

The Town is exempt from the payment of any excise or federal transportation taxes. The price bid must be exclusive of taxes and will be so construed.

8. "Or Equal" Bidding

When the name of a manufacturer, a brand name, or manufacturer's catalogue number is issued as the bid standard in describing an item followed by "Or Equal" this description is used to indicate quality, performance and other essential characteristics of the article required.

If bidding on other than the make, model, brand or sample specified, but equal thereto, bidder must so state by giving the manufacturer's name, catalogue number and any other information necessary to prove that the intended substitution of a commodity is equal in all essential respects to the bid standard. Bidder must prove to the satisfaction of the Town Manager or by person or persons designated by him, that his/her designated substitute is equal to the bid standard: otherwise, his/her bid will be declared "No Bid" insofar as the item in question is concerned.

9. Award and Contract

Unless otherwise specified, the Town reserves the right to make award by item or items, or by total, as may be in the best interest of the Town. A written award (or acceptance of Bid) mailed (or otherwise furnished) to the successful bidder followed by a Town Purchase Order shall, unless otherwise specified, be deemed to result in a binding contract without further action by either party.

10. Delivery

All prices must be on the basis of F.O.B. Delivery Point Narragansett, Rhode Island. The bid prices must include delivery and shipping to the Town. No additional shipping, handling, or fuel surcharge costs will be honored by the Town. Deliveries must consist only of new merchandise or equipment (unless otherwise specified) and shall be made between 8:30 a.m. and 3:00 p.m., Monday through Friday. No delivery shall become due or be acceptable without a written Purchase Order issued by the Town Purchasing Agent.

11. Equal Employment Opportunity Policy Statement

For the purposes of this Policy, the term "vendor" shall mean any and all individuals, companies, corporations, and business entities that provide goods or services to the Town of Narragansett pursuant to any and all relevant and appropriate Federal, State, and local purchasing rules, regulations, and procedures.

The Town of Narragansett is committed to the general policy and principle of Equal Employment Opportunity in terms of retaining vendors to provide the Town with goods and services necessary for routine and emergency operations. The Town will not discriminate against vendors as entities, or individual employees thereof on any legally-recognized basis included, but not limited to, race, age, color, religion, sex, marital status, national origin, physical or mental disability, Veteran's status, pregnancy, sexual orientation, genetic conditions, predisposition to certain diseases, or ancestry, except where a bona fide occupational qualification exists.

12. Towns Right to Reject

The Town reserves the right to reject any and all proposals, to waive any informality in the proposals received and to accept the proposal deemed to be most favorable to the best interests of the Town.

13. Bond\Surety

Contractor awarded a contract with a contract price in excess of fifty thousand dollars (\$50,000) (or as may be amended under RIGL) for construction, buildings or public works is to file with the proper authority good and sufficient bond with surety furnished by any surety company authorized to do business in the State of Rhode island and in accordance with Chapters 37-12 and 37-13 of the General Laws of Rhode Island entitled "Contractors' Bonds", and "Labor and Payment of Debts by Contractors". The Contractor shall comply with all provisions of Chapters 37-12 and 37-13 of the RIGL, as may be amended.

14. Insurance

The CONTRACTOR shall provide the following insurances in accordance with the General Conditions:

A. Workmen's Compensation Insurance

The CONTRACTOR shall provide statutory Workmen's Compensation Insurance for all labor employed on the Project who may come within the protection of such laws and shall provide Employer's General Liability Insurance in the amount of \$500,000 for the benefit of his/her employees not protected by such compensation laws.

B. Contractor's Comprehensive Public Liability and Property Damage Liability Insurance

The CONTRACTOR shall carry Comprehensive General Liability Insurance with broad form of Contractual General Liability Endorsement attached, providing for a limit of not less than One Million Dollars (\$1,000,000) for all damages arising out of bodily injuries to or death of one (1) person, and subject to that a limit for each person, a total limit of not less than One Million Dollars (\$1,000,000) for all damages arising out of bodily injuries to or the death of two (2) or more persons in any one accident; and Contractor's Comprehensive Property Damage Liability Insurance providing for a limit of not less than One Million Dollars (\$1,000,000) for all damages arising out of injury to or destruction of property in any one accident; and subject to a limit of not less than One Million Dollars (\$1,000,000) for all damages arising out of injury to or destruction of property during the policy period.

C. Owner's Protective Liability and Property Damage Insurance

The CONTRACTOR shall provide the OWNER an insurance policy written in the name of the OWNER, its employees, servants and agents, and extended to include the interests of the Engineer, its employees, and agents; to protect the OWNER and the Engineer from any liability which might be incurred against them as

a result of any operations of the CONTRACTOR or his/her subcontractors, or their employees. Such insurance shall provide for a limit of not less than One Million Dollars (\$1,000,000) for all damages arising out of bodily injuries to or the death of any one (1) person, and subject to that limit for each person, a total limit of not less than One Million Dollars (\$1,000,000) for all damages arising out of bodily injuries to or the death of two (2) or more persons in any one accident; and a limit of not less than One Million Dollars (\$1,000,000) for all damages arising out of injury to or destruction of property in any one accident, and subject to a limit of not less than One Million Dollars (\$1,000,000) for all damages arising out of injury to or destruction of property during the policy period.

D. Comprehensive Automobile Liability and Property Damage Insurance

The CONTRACTOR shall carry Comprehensive Automobile Liability Insurance covering all owned vehicles, hired vehicles, or non-owned vehicles in the amount of not less than One Million Dollars (\$1,000,000) for all damages arising out of bodily injuries to or the death of any one (1) person; and subject to that limit for each person a total of not less than One Million Dollars (\$1,000,000) for all damages arising out of bodily injuries to or the death of two (2) or more persons in any one accident; and Property Damage coverage in the amount of not less than One Million Dollars (\$1,000,000) for all damages arising out of injury to or destruction of property.

E. Insurance Covering Special Hazards

Special hazards shall be covered by rider or riders to the Public Liability Insurance And Property Damage Insurance policy or policies hereinabove required to be furnished by the CONTRACTOR, or by separate policies of insurance as follows:

1. Property Damage Liability arising out of the collapse of, or structural injury to any building or structure due to excavation (including borrowing, filling, or backfilling in connection therewith), tunneling, pile driving, cofferdam work, or caisson work; or to moving, shoring,

underpinning, razing, or demolition of any building or structure, or removal or rebuilding of any structural support thereof.

2. Property Damage Liability for injury to or destruction of property arising directly or indirectly from blasting or explosions, however caused, other than pressure, prime movers, machinery or power-transmitting equipment.
3. Property Damage Liability for injury or destruction of wires, conduits, pipes, mains, sewers, or other similar property or any apparatus in connection therewith, below the surface of the ground, arising from and during the use of mechanical equipment for the purpose of excavating or drilling within the Project limits; injury to or destruction of property at any time resulting therefrom.
4. The CONTRACTOR shall require similar insurance in such amounts to be taken out and maintained by each subcontractor.

F. Builders Risk Insurance

During the progress of Work, the CONTRACTOR shall effect and maintain BUILDERS' RISK INSURANCE ON COMPLETED VALUE FORM against loss by fire, lightning, windstorm, hurricane, cyclone, tornado, hail, explosion, riot, riot attending strike, aircraft, smoke and vehicle damage, vandalism, and malicious mischief upon all Work in place and all material stored at the building site, whether or not covered by partial payments made by the OWNER. This insurance shall be in an amount equal to 100 percent (100%) of the insurable portion of the Project and shall be for the benefit of the OWNER, the CONTRACTOR, and each subcontractor, as their interest may respectively appear.

If there are any existing adjacent or adjoining structures presently used by the OWNER, the risk of the existing adjacent or adjoining structures will be by the OWNER.

15. Labor Regulations

The following paragraphs regarding nondiscrimination in employment shall be included and become part of these Specifications:

- A. The Contract for Work under this proposal will obligate the contractor and subcontractors not to discriminate in employment practices and conform with Executive Order No. 11246.
- B. Bidders must, if required, submit a compliance report concerning their employment practices and policies in order to maintain their eligibility to receive award of the Contract.
- C. Successful bidders must, if required, submit a list of all subcontractors who will perform Work on the Project, and written signed statements from authorized agents of labor pools with which they will or may deal with for employees on the Work, together with any information to the effect that such labor pools practices or policies are in conformity with Executive Order No. 11246; that they will affirmatively cooperate in or offer no hindrance to the recruitment, employment, and equal treatment of employment, and equal treatment of employees seeking employment and performing Work under this Contract; or a certification as to when such agents or labor pools have failed or refused to furnish them, prior to award of the Contract.

16. Wage Rates

Attention of the bidders is particularly called to the requirements as to conditions of employment to be observed and minimum wage rates to be paid under the Contract. In conformity with the provisions of Chapter 13 of Title 37, General Laws, Rhode Island, 1956, as amended, the minimum wages for a day's work paid to all employees shall be not less than the customary and prevailing rate of wages for a day's work in the locality where the work is undertaken. Such a schedule of wages has been established on a minimum hourly basis and is in file in the office of the State Department of Labor. The Contractor shall comply with all provisions of Chapter 37-13 of the RIGL, as may be amended. Particular attention is called to Chapter 37-13-13,

relative to posting and providing certified payroll records. For additional information, refer to the State of Rhode Island and Providence Plantations Division of Professional Regulations "Rules and Regulations Relating to Prevailing Wages".

17. Bid Security

Bidders are required to furnish with the Bid Proposal, Bid Security in the amount of five (5) percent of the total Bid Price in the form of a certified check, money order, or in the form attached herein, made payable to the Town of Narragansett. Bid Security of unsuccessful Bidders will be returned within a reasonable time after the award of Bid. Bid Security of the successful Bidder will be retained until the execution of a Contract with the Town, or forfeited to the Town as liquidated damages upon failure to execute a Contract according to the Bid Documents.

SPECIAL INSTRUCTIONS TO BIDDERS

SPECIAL INSTRUCTIONS TO BIDDERS

1. PREPARATION OF BID
2. CORRECTIONS
3. QUALIFICATIONS OF THE BIDDER
4. OBLIGATIONS OF THE BIDDER
5. CONDITIONS OF WORK
6. INFORMATION SUPPLIED TO BIDDERS
7. METHOD OF AWARD
8. EXECUTION OF THE AGREEMENT
9. NOTICE TO PROCEED
10. TIME OF COMPLETION AND LIQUIDATED DAMAGES
11. POWER OF ATTORNEY
12. ADDENDA AND INTERPRETATIONS
13. UNCERTAINTY OF QUANTITIES
14. ITEMS NOT LISTED IN THE BID
15. BALANCED BIDDING
16. PRICES
17. NOTICE OF SPECIAL CONDITIONS
18. LAWS AND REGULATIONS
19. MANUFACTURER'S EXPERIENCE
20. ACCESS TO SITE
21. SOIL BORINGS
22. RHODE ISLAND SALES AND USE TAX
23. JOB CONDITIONS
24. PRECONSTRUCTION CONFERENCE
25. OWNER'S RIGHT TO DELETE PORTION OF CONTRACT
26. LABOR REGULATIONS
27. WAGE RATES

SPECIAL INSTRUCTIONS TO BIDDERS

ARTICLE 1: PREPARATION OF BID

Each bid must be submitted on the prescribed form. All blank spaces for bid prices must be filled in, in ink or typewritten, both in words and figures. All bids must be prepared in conformity with and shall be based on and submitted subject to all requirements of the Specifications and Drawings, together with all Addenda thereto.

ARTICLE 2: CORRECTIONS

Erasures or other changes in the bid must be explained or noted over the signature of the bidder.

ARTICLE 3: QUALIFICATIONS OF THE BIDDER

The OWNER may make such investigations as he/she deems necessary to determine the ability of the bidder to perform the Work, and the bidder shall furnish to the OWNER all such information and data for this purpose as the OWNER may request. The OWNER reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the OWNER that such bidder is properly qualified to carry out the obligations of the Contract and to complete the Work contemplated therein.

ARTICLE 4: OBLIGATIONS OF THE BIDDER

Bidders must satisfy themselves by personal examination at the site of the proposed Work, by review of the Drawings and the Specifications including Addenda, and by such other means as they may prefer, as to the actual conditions, requirements, and limits of the proposed Work, and as to the accuracy of the information and statements herein contained, and the submission of any bid will be accepted by the OWNER as satisfactory proof that the bidder has satisfied himself/herself in these respects. The bidder shall not at any time after the submission of a bid dispute or complain of such statements or information, nor assert that there was any misunderstanding in regard to the nature, or amount of Work to be done. The failure or omission of any bidder to examine any form, instrument or document shall in no way relieve the bidder of his/her obligation to furnish all materials and labor necessary to carry out the provisions of the Contract Documents and to complete the contemplated Work for the considerations set forth in his/her bid, if his/her bid is accepted.

ARTICLE 5: CONDITIONS OF WORK

Insofar as possible, the CONTRACTOR, in carrying out his/her Work, must employ such methods or means as will not cause any interruption of or interference with traffic, with the use of existing facilities and utilities, with the use of municipally or State or privately owned lands, or with the Work being performed by others. The CONTRACTOR must satisfy himself/herself by his/her own investigation and research as to the nature and location of the Work, the general

and local conditions, including, but not restricted to, those bearing upon the transportation, disposal, handling and storage of materials, water, electric power, roads, means of access, the construction and making of connections of the Work to existing facilities and utilities, or other similar conditions at the site, the character of equipment and facilities needed preliminary to and during the prosecution of the Work, requirements of owners and controlling authorities having jurisdiction over the various lands, existing structures, facilities and utilities, and all other conditions affecting the Work to be done and labor and materials needed.

ARTICLE 6: INFORMATION SUPPLIED TO BIDDERS

The OWNER shall provide to bidders prior to bidding all information which is pertinent to, and delineates and describes, the land owned and rights-of-way acquired or to be acquired.

The Contract Documents contain the provisions required for the construction of the Project. Information obtained from any officer, agent, or employee of the OWNER or any other person shall not affect the risks or obligations assumed by the CONTRACTOR or relieve him/her from fulfilling any of the conditions of the Contract.

ARTICLE 7: METHOD OF AWARD

If, at the time this Contract is to be awarded, the lowest base bid submitted by a responsible bidder does not exceed the amount of funds then estimated by the OWNER as available to finance the Contract, the Contract may be awarded on the base bid. If such bid exceeds such amount, the OWNER expressly reserves the right to increase or decrease any class, item, or part of the Work, and this reservation includes the omission of any such item, items, class or part of the Work as may be decided by the OWNER at unit prices submitted by the bidder to bring the Contract within available funds; or the OWNER may reject all bids.

The low bidder shall supply the names and addresses of major material suppliers and subcontractors when requested to do so by the OWNER.

ARTICLE 8: EXECUTION OF THE AGREEMENT

A Contract in the form set forth hereinafter will be required to be executed by the successful bidder and the OWNER. The attention of all bidders, therefore, is called to the form of the Agreement and the provisions thereof. The party to whom the Contract is awarded will be required to obtain the performance bond and payment bond within fifteen (15) calendar days from the date when the Notice Of Award is delivered to the bidder. The Notice Of Award shall be accompanied by the necessary Agreement and bond forms. The CONTRACTOR shall furnish a Performance Bond and a Payment Labor and Material Bond, each in the amount of 100 percent of the Contract Price, with a corporate surety approved by the OWNER, as security for faithful performance of Contract.

The OWNER, within fifteen (15) days of receipt of an acceptable performance bond, payment bond and Agreement signed by the party to whom the Agreement was awarded, shall sign the

Agreement and return to such party an executed duplicate of the Agreement. Should the OWNER not execute the Agreement within such period, the bidder may, by written notice, withdraw his/her signed Agreement. Such notice by withdrawal shall be effective upon receipt of the notice by the OWNER.

ARTICLE 9: NOTICE TO PROCEED

The Notice To Proceed shall be issued within ten (10) days of the execution of the Agreement by the OWNER. Should there be reasons why the Notice To Proceed cannot be issued within such period, the time may be extended by mutual agreement between the OWNER and CONTRACTOR. If the Notice To Proceed has not been issued within the ten (10) day period or within the period mutually agreed upon, the CONTRACTOR may terminate the Agreement without further liability on the part of either party.

ARTICLE 10: TIME OF COMPLETION AND LIQUIDATED DAMAGES

The bidder must agree to commence Work on or before the date specified in the written Notice To Proceed of the OWNER, and to fully complete the Project on or before October 31, 2016. The bidder must agree also to pay as liquidated damages, the sum of \$1000.00 for each consecutive calendar day thereafter as hereinafter provided in the Contract and General Conditions.

ARTICLE 11: POWER OF ATTORNEY

Attorney-in-fact who sign bid bonds or Contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

ARTICLE 12: ADDENDA AND INTERPRETATIONS

No interpretation of the meaning of the Drawings, Specifications, or other prebid documents will be made to any bidder orally. Every request for such interpretation should be in writing, addressed to:

Purchasing Manager, Town of Narragansett, 25 Fifth Avenue, Narragansett, Rhode Island, 02882.

In order to be given consideration, such request must be made at least five (5) days prior to the date fixed for the opening of bids. Any and all interpretations and any supplemental instructions will be in the form of written Addenda to the Specifications, which, if issued, will be mailed by certified mail with return receipt requested to all prospective bidders, not later than three (3) days prior to the date fixed for the opening of bids. Failure of any bidder to receive any such Addenda or interpretations shall not relieve the bidder from any obligation under his/her bid as submitted. All Addenda so issued shall become a part of the Contract Documents.

ARTICLE 13: UNCERTAINTY OF QUANTITIES

The quantities listed in the bid (proposal) are approximate and are given only for use in comparing bids and to indicate approximately the total amount of the Contract; and the OWNER

does not expressly or by implication represent that the actual amounts of Work will even approximately correspond therewith, but does call particular attention to the uncertainty of the quantities of the Work involved, which cannot be predicted in advance. The Work under certain items may be materially greater or less than that given in the bid, as may be necessary in the judgment of the OWNER to complete the Work contemplated in the Contract.

Under the Contract, the OWNER reserves the right to increase or decrease the approximate quantities for, or to omit entirely, any of the items as listed in the bid.

Only such quantities of the respective items of Work actually performed and accepted will be paid for. An increase or decrease in the quantity for any item shall not be regarded as grounds for an increase or decrease in the bid prices.

ARTICLE 14: ITEMS NOT LISTED IN THE BID

Appurtenant items of Work shown on the Drawings or specified or required to complete the Work, but not listed separately under the list of items in the bid, shall be included in the cost of payment under the various applicable bid items. It shall be the responsibility of the CONTRACTOR to verify any missing or incomplete items.

ARTICLE 15: BALANCED BIDDING

Minus bidding on any item or items of the Specifications is prohibited. Bids should be made on each separate item of Work shown in the bid (proposal) with reasonable relation to the probable cost of doing the Work included in such item, and the right is reserved to reject wholly any bid in case any item or items thereof are obviously unbalanced or appear to the OWNER to be so unbalanced as to affect or to be liable to affect adversely any interests of the OWNER. The attention of the bidder is called to the fact that unbalancing of bids may adversely affect the CONTRACTOR, if certain portions of the Work are increased or decreased as provided in the Contract Documents.

ARTICLE 16: PRICES

Bidders shall state the proposed price for the Work by which the bids will be compared. This price is to cover all the expenses incidental to the completion of the Work in full conformity with the Contract, the Specifications, and the Drawings. The price or prices proposed shall be stated both in words and in figures, and any bid not so stated may be rejected.

In the event there is a discrepancy between the unit prices and the extended totals, the unit prices shall govern. In the event that there is a discrepancy between the unit prices written in words and the unit prices written in figures, the unit prices written in words shall govern. No bid will be accepted which does not contain a unit or lump sum price for every item contained in the bid form.

ARTICLE 17: NOTICE OF SPECIAL CONDITIONS

Attention is particularly called to those parts of the Contract Documents and Specifications which deal with the following:

- a. Inspection and testing of materials,
- b. Insurance requirements,
- c. Wage rates,
- d. Interpretation of Drawings and Specifications,
- e. Special requirements for Work within the limits of privately-owned property and State Highways, and
- f. The use of explosives and protection.

ARTICLE 18: LAWS AND REGULATIONS

The bidder's attention is directed to the fact that all applicable State laws, municipal ordinances and rules, and regulations of all authorities having jurisdiction over construction of the Project shall apply to the Contract the same as though herein written in full. Specifically included is the requirements necessary to comply with the Americans with Disabilities Act.

ARTICLE 19: MANUFACTURER'S EXPERIENCE

Wherever it may be written that an equipment manufacturer must have a specified period of experience with his product, equipment which does not meet the specified experience period may, at the option of the OWNER, be considered if the equipment supplier or manufacturer is willing to provide a bond or cash deposit for the duration of the specified time period which will guarantee replacement of that equipment in the event of failure.

ARTICLE 20: ACCESS TO SITE

Representatives of the "OWNER" and of the State shall have access to the Work wherever it is in preparation or progress, and the CONTRACTOR shall provide proper facilities for such access and inspection.

ARTICLE 21: SOIL BORINGS

For Construction Documents that include soil borings, Bidders attention is directed to the fact that no guarantee of any nature is given by the OWNER and/or Engineer as to accuracy of the data obtained from the borings. Reproductions of all available boring log sheets are attached herein. Soil and rock core samples may be made available for inspection. Any bidder who uses this information in making his proposal does so entirely at his/her own responsibility and risk.

ARTICLE 22: RHODE ISLAND SALES AND USE TAX

Materials and equipment purchased for installation under this Contract are exempt from the Rhode Island Sales Tax. The exemption from the Sales Tax shall be taken into account by the CONTRACTOR during bidding.

ARTICLE 23: JOB CONDITIONS

The bidder is advised that free vehicular and pedestrian access must be maintained to the major streets. The method of construction must be therefore compatible with this requirement of free access.

ARTICLE 24: PRECONSTRUCTION CONFERENCE

The CONTRACTOR shall be prepared to attend a preconstruction conference scheduled by the OWNER after award of the Contract, but prior to the actual commencement of Work at the site. The main item of discussion will be the CONTRACTOR's construction schedule, proposed Superintendent, Professional Engineer or Land Surveyor, record drawings, etc.

ARTICLE 25: OWNER'S RIGHT TO DELETE PORTION OF CONTRACT

The OWNER reserves the right to delete a portion of this Contract after review of submitted bids, and prior to or after Bid award. The CONTRACTOR shall have no claim for anticipated profits or for loss of profits or for increase in prices should the OWNER exercise this right.

ARTICLE 26: LABOR REGULATIONS

The following paragraphs regarding nondiscrimination in employment shall be included and become part of these Specifications:

- a. The Contract for Work under this proposal will obligate the CONTRACTOR and subcontractors not to discriminate in employment practices and conform with Executive Order No. 11246.
- b. Bidders must, if required, submit a compliance report concerning their employment practices and policies in order to maintain their eligibility to receive award of the Contract.
- c. Successful bidders must, if required, submit a list of all subcontractors who will perform Work on the Project, and written signed statements from authorized agents of labor pools with which they will or may deal with for employees on the Work, together with any information to the effect that such labor pools practices or policies are in conformity with Executive Order No. 11246; that they will affirmatively cooperate in or offer no hindrance to the recruitment, employment, and equal treatment of employment, and equal treatment of employees seeking employment and performing Work under this Contract; or a certification as to when such agents or labor pools have failed or refused to furnish them, prior to award of the Contract.

ARTICLE 27: WAGE RATES

Attention of the bidders is particularly called to the requirements as to conditions of employment to be observed and minimum wage rates to be paid under the Contract. In conformity with the provisions of Chapter 13 of Title 37, General Laws, Rhode Island, 1956, as amended, the minimum wages for a day's work paid to all employees shall be not less than the customary and prevailing rate of wages for a day's work in the locality where the work is undertaken. Such a schedule of wages has been established on a minimum hourly basis and is on file in the office of the State Department of Labor. The successful contractor will be required to submit weekly certified payroll records for all employees, direct or as may be employed by a sub-contractor. The Town will reserve the right to verify actual wages paid v. the posted schedule of wages, and further reserves the right to interview any employees of the successful contractor and/or his/her sub-contractor(s). For additional information, refer to the State of Rhode Island and Providence Plantations Division of Professional Regulations "Rules and Regulations Relating to Prevailing Wages".

ARTICLE 28: PERMITS

The Contractor shall obtain all permits and pay all related fees as required by the Town and the State. Local permit fees will be waived; State permit fees must be paid by the Contractor.

ARTICLE 29: REGULATORY MATTERS

The Contractor shall comply with the terms and conditions of all regulatory permits that have been obtained by the Town for this project. No additional compensation shall be allowed for any such compliance, and the Contractor shall assume full responsibility, financial, legal, and otherwise for any and all non-compliant actions related to his/her work.

BID FORM

Pursuant to and in compliance with the INVITATION TO BID, and the INSTRUCTIONS TO BIDDERS relating thereto, the undersigned bidder hereby states that they have carefully examined the **CONTRACT DOCUMENTS** and the party understands the provisions, requirement, terms and conditions thereof, all of which are acknowledged to be part of the **Bid Proposal**.

Further, they have become familiar with local conditions and the extent of work: has determined the required quality, quantity and sources of supply of all plant, equipment, materials, tools, supplies, labor and all other facilities and things necessary or proper or incidental to the continuous execution and completion of the work as required: and hereby agrees to perform the contract in strict accordance with the **CONTRACT DOCUMENTS**.

The undersigned bidder hereby agrees that the bid proposal submitted shall remain in effect and binding upon the bidder for a period of 90 calendar days, from the date and time bids are received.

The undersigned bidder declares that his/her bid proposal in all respects is fair and made without collusion with any other person, firm, corporation making a proposal for this work.

TOTAL BID PRICE (Items 1.01 through 1.07 and Items 2.01 through 2.07 on pgs. BF-2 to BF-6):

(written)

(figures)

BUSINESS NAME: _____

ADDRESS: _____

SIGNED: _____

TITLE: _____

PRINT NAME: _____

DATE: _____

PHONE: _____

FAX: _____

E-MAIL: _____

FIN: _____

NOTE: BIDDER MUST SUBMIT THREE (3) COPIES OF THIS PROPOSAL (1 ORIGINAL/2 COPIES)

PROPOSAL ITEMS – SCHEDULE OF PRICES
REHABILITATION OF
KINNEY AVENUE AND NORTH END WATER STORAGE TANKS
NARRAGANSETT, RI

NOTE: The unit price for each item must be written in words and figures.
“LS” = LUMP SUM, “LF” = LINEAR FOOT, “CY” = CUBIC YARDS, “SY” = SQUARE YARDS, “EA” = EACH, “TON” = TONS

1. Kinney Avenue Water Storage Tank

Bid Item	Description	Estimated Quantity	Unit Bid	Unit Price	Total Price
1.01	Mobilization & Demobilization, Bonds & Insurance, General Conditions (<i>\$10,000 maximum allowed</i>)	1	LS	\$	\$
Total Price in Words:					
1.02	Prepare & Recoat Exterior Surfaces, Class 1A Containment	1	LS	\$	\$
Total Price in Words:					
1.03	Miscellaneous Concrete Foundation Repairs	1	LS	\$	\$
Total Price in Words:					
1.04	Prepare & Recoat Interior Condensation Interior Surfaces	1	LS	\$	\$
Total Price in Words:					
1.05	Clean Foundation & Apply Epoxy Resin Concrete Penetrating Sealer	1	LS	\$	\$
Total Price in Words:					
1.06	Repair & Refurbish Anchor Bolts, Nuts & Chair Assemblies	24	EA	\$	\$
Total Price in Words:					
1.07	Miscellaneous Electrical Work	1	LS	\$	\$
Total Price in Words:					

Base Bid – Kinney Avenue Water Storage Tank Sum Total Bid Amount (Bid Items 1.01 – 1.07)					\$
Sum Total In Words:					

Kinney Avenue Water Storage Tank – Add/Alternate Items

Bid Item	Description	Estimated Quantity	Unit Bid	Unit Price	Total Price
A1.01	Prepare & Recoat Non-Wetted Interior Surfaces (Below Condensate Ceiling)	1	LS	\$	\$
Total Price in Words:					
A1.02	Clean & Recoat Interior Non-Wetted Interior Surfaces (Above Condensate Ceiling)	1	LS	\$	\$
Total Price in Words:					
A1.03	Clean & Recoat Valve Vault Piping	1	LS	\$	\$
Total Price in Words:					
A1.04	Furnish & Install Clog-Resistant Roof Vent	1	LS	\$	\$
Total Price in Words:					
A1.05	Electrical Work Associated with Completion of Add/Alternate Items	1	LS	\$	\$
Total Price in Words:					

Note: Bids to be evaluated based upon total of lump sum and unit price of Bid Items 1.01 through 1.07. Acceptance and incorporation of Add/Alternate Items shall be at Owner's sole discretion.

2. North End Water Storage Tank

Bid Item	Description	Estimated Quantity	Unit Bid	Unit Price	Total Price
2.01	Mobilization & Demobilization, Bonds & Insurance, General Conditions (<i>\$10,000 maximum allowed</i>)	1	LS	\$	\$
Total Price in Words:					
2.02	Prepare & Recoat Exterior Surfaces, Class 1A Containment	1	LS	\$	\$
Total Price in Words:					
2.03	Miscellaneous Concrete Foundation Repairs	1	LS	\$	\$
Total Price in Words:					
2.04	Prepare & Recoat Interior Surfaces	1	LS	\$	\$
Total Price in Words:					
2.05	Clean Foundation & Apply Epoxy Resin Concrete Penetrating Sealer	1	LS	\$	\$
Total Price in Words:					
2.06	Repair & Refurbish Anchor Bolts, Nuts & Chair Assemblies	24	EA	\$	\$
Total Price in Words:					
2.07	Miscellaneous Electrical Work	1	LS	\$	\$
Total Price in Words:					

Base Bid – North End Water Storage Tank Sum Total Bid Amount (Bid Items 2.01 – 2.07)				\$
Sum Total In Words:				

North End Water Storage Tank – Add/Alternate Items

Bid Item	Description	Estimated Quantity	Unit Bid	Unit Price	Total Price
A2.01	Clean & Recoat Fill/Draw Piping & Valve Vault Piping	1	LS	\$	\$
Total Price in Words:					
A2.02	Furnish & Install Clog-Resistant Roof Vent	1	LS	\$	\$
Total Price in Words:					
A2.03	Furnish & Install 30" Shell Man Way	1	LS	\$	\$
Total Price in Words:					
A2.04	Revolving Ladder Modifications & Repairs	1	LS	\$	\$
Total Price in Words:					
A2.05	Install Cable Tray Mounting Brackets	1	LS	\$	\$
Total Price in Words:		Ten Thousand & 00/100 Dollars			
A2.06	Electrical Work Associated with Completion of Add/Alternate Items	1	LS	\$	\$
Total Price in Words:		Ten Thousand & 00/100 Dollars			

Note: Bids to be evaluated based upon total of lump sum and unit price of Bid Items 2.01 through 2.07. Acceptance and incorporation of Add/Alternate Items shall be at Owner's sole discretion.

BASE BID PROPOSAL SUMMARY

1. Kinney Avenue Water Storage Tank Sum Total Bid Amount (Bid Items 1.01 thru 1.07)		\$
Sum Total In Words:		
2. North End Water Storage Tank Sum Total Bid Amount (Bid Items 2.01 thru 2.07)		\$
Sum Total In Words:		
Sum Total Amount Tanks 1 and 2		\$
Sum Total In Words:		

Note: This sum total amount, above, shall match precisely the “Total Bid Price” on Page BF-1 of the Bid Form and the sum total amount of each tank, above, shall match precisely the “Sum Total In Words” listed previously for each respective tank. **This sum shall not include the Add/Alternate Items.**

The Basis of Award shall be the Total Bid Price as entered on page BF-1. The Town reserves the sole right to accept any and/or all “Add/Alternate” items in any combination as part of the bid award.

NOTE:

The Contractor shall complete all work and return the tanks to functional service on or before October 31, 2016. The North End Tank shall remain fully operational between Memorial Day and Labor Day

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned _____, as Principal, and _____, as Surety, are hereby held and firmly bound unto the TOWN OF NARRAGANSETT, RHODE ISLAND, as OWNER in the penal sum of (\$ _____), for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.

Signed, this _____ day of _____, 20____.

The condition of the above obligation is such that whereas the Principal has submitted to the Town of Narragansett, Rhode Island, a certain BID, attached hereto and hereby made a part hereof to enter into a Contract in writing, for _____.

NOW, THEREFORE,

- (a) If said BID shall be rejected, or
- (b) If said BID shall be accepted and the Principal shall execute and deliver a Contract in the Form Of Contract attached hereto (properly completed in accordance with said BID) and shall furnish a Performance Bond and a Labor and Material Payment Bond for his/her faithful performance of said Contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the Agreement created by the acceptance of said BID, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way impaired or affected by any extension of the time with which the OWNER may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

Notary
and _____ Principal Seal

By: _____ Notary
and
Seal

Surety

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the project is located.

CONTRACT AGREEMENT

REHABILITATION OF KINNEY AVE. & NORTH END WATER STORAGE TANKS

THIS AGREEMENT, made and executed this XX day of XXX, in the year Two Thousand and Fifteen (2015), by and between the Town of Narragansett, a municipality located within the State of Rhode Island, by its Town Council duly constituted, and without personal liability for the individuals signatory hereto, herein termed the OWNER, party of the first part, and

_____, doing business as a corporation, hereinafter termed the CONTRACTOR, party of the second part;

WITNESSETH: That the parties to this Agreement each in consideration of the Agreements on the part of the other herein contained have agreed, and by these presents do hereby agree, the OWNER for itself, and the CONTRACTOR for himself/herself and his/her heirs, executors, administrators, successors, and assigns, as follows:

That the Contract Documents consist of this Agreement, together with the Legal and Procedural Documents, General and Supplemental Conditions, Detailed Specification Requirements, Contract Drawings, and any Addenda issued before execution of the Agreement, for the Contract;

That the CONTRACTOR has informed himself/herself fully in regard to all conditions pertaining to the place where the Work is to be done and other circumstances affecting the Work;

That the CONTRACTOR has obtained all the information he/she needs to enable him/her to estimate fully and fairly the costs of the Work herein contemplated;

That the CONTRACTOR shall furnish all plant, labor, materials, suppliers, tools, equipment, and other facilities and things necessary or proper for or incidental to, the party of the first part in accordance with this Contract, commencing Work within the time interval stated in the Bid Proposal, provided he/she shall have been notified by the OWNER so to do, and completing everything required of him/her under this Contract not later than the time stated in the Bid Proposal.

That the OWNER shall pay and the CONTRACTOR shall receive, as full compensation for fulfilling everything required of the CONTRACTOR under this Contract, the unit prices and lump sums recorded in the Bid Form of the Proposal.

That the quantities shown in the Bid Proposal or Bid Form are approximate only, and are solely for the purpose of facilitating the comparison of Proposals; that the OWNER shall not be held responsible if these quantities are not even approximately correct; that for all Work upon which unit prices and lump sums are quoted, the CONTRACTOR'S compensation shall be computed upon the Work actually performed, measured by the units of measurement specified, whether greater or less than the quantities shown in the Bid Proposal or Bid Form; and that the unit prices and lump sums set against the several items cover all incidental services required of the CONTRACTOR under the Contract.

That the CONTRACTOR shall give to the OWNER, as liquidated damages, for each day lost by the CONTRACTOR in the completion of the Work of the Contract after the time herein stipulated, the sum of One Thousand Dollars (\$1,000.00) per day;

That the Contract Drawings are prints as listed in the Specifications, and that an official set, in which each print is marked, **REHABILITATION OF KINNEY AVE. & NORTH END WATER STORAGE TANKS** has been received by each of the parties hereto.

Signed, sealed and delivered in quadruplicate the day and year first above written.

OWNER:

Town of Narragansett, Rhode Island

By: _____
Pamela T. Nolan, Town Manager

CONTRACTOR*

By: _____

Title: _____

This Contract and the applicable Certificates of Insurance are satisfactory to the Town of Narragansett, Rhode Island.

By: _____
Dawson T. Hodges, Town Solicitor

Town Council Agenda Item / Date

EXPERIENCE

The following experience sheet shall be completed by each Bidder. Any Bid submitted without a fully completed Experience Sheet will be rejected by the OWNER. The Contractor may attach supplemental statement of experience sheets at his/her option.

- 1. Have you ever failed to complete any work awarded to you?
If so, state where and why.

- 2. What projects similar to this one has your organization completed within the last five (5) years?

Class of Work	Contract Amount	When Completed	Name & Address of Engineer or Owner
(1)	(2)	(3)	(4)

THE BIDDER SHALL STATE THE NAMES OF ALL THE SUBCONTRACTORS

THAT HE/SHE PROPOSES TO USE

PROPOSED SUBCONTRACTORS

If none, write "None" _____

*Description of Work

Proposed Subcontractor, Name: _____

Address: _____

Description of Work _____

Proposed Subcontractor, Name: _____

Address: _____

*Insert description of Work and subcontractors' names as may be required.

This is to certify that all names of the above-mentioned subcontractors are submitted with full knowledge and consent of the respective parties.

The Bidder warrants that none of the proposed subcontractors have any conflict of interest in respect to this Contract.

Bidder _____
(Fill in Name)

By _____
(Signature and Title)

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that _____

(Name of Contractor)

of _____
(Address of Contractor)

as Principal, hereinafter called Principal, and

(Name of Surety)

(Address of Surety)

as Surety, hereinafter called Surety, are held and firmly bound unto the Town of Narragansett, Rhode Island, called the Obligee, in the full penal sum of _____ Dollars (\$ _____), in lawful money of their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT WHEREAS said Principal has entered into a certain written Contract with said Obligee, dated the _____ day of _____, 2015 for the

_____ which Contract, together with all Contract Documents now made or which may hereafter be made in extension, modification or alteration thereof, are hereby referred to, incorporated in and made a part of this Bond as though herein fully set forth.

NOW, THEREFORE, if the said Principal shall well and truly keep, perform, and execute all the terms, conditions and stipulations of said Contract according to its provisions on his/her or its part to be kept and performed and shall indemnify and reimburse the Obligee for any loss that it may suffer through failure of the Principal to faithfully observe and perform each and every obligation and duty imposed upon the Principal by the said Contract, at the time and in the manner therein specified, then this obligation shall be null and void, otherwise it shall remain and be in full force and effect.

PROVIDED, HOWEVER, that any alterations which may be made in the terms of said Contract or in the Work done or to be done under it, or the giving by the Obligee of any extension of time for the performance of said Contract or any other forbearance on the part of either the Obligee or

the Principal one to the other, shall not in any way release the Principal and/or the Surety, or either of them, their representatives, heirs, executors, administrators, successors or assigns from liability hereunder, notice to the Surety or Sureties of any such alteration, extension or forbearance being hereby specifically and absolutely waived.

AND PROVIDED FURTHER THAT NO ACTION, suit, or proceeding shall be had or maintained against the Surety on this instrument unless the same be brought or instituted and process served upon the Surety within three (3) years from the expiration of the guaranty period provided in the Contract, whether the Work be completed by the Principal, or Obligee.

IN WITNESS WHEREOF, the said Principal and Surety have SIGNED AND SEALED this instrument this _____ day of _____, 20__.

ATTEST:

Principal

(Principal) Secretary

By _____ (S)

(SEAL)

Witness as to Principal

ATTEST:

Surety

(Surety) Secretary

(SEAL)

By _____
Attorney-in-Fact

Witness as to Surety

Note: Date of Bond must not be prior to date of Contract. If Contractor is a Partnership, all partners should execute Bond.

IMPORTANT: Surety companies executing Bonds must appear on the U.S. Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Rhode Island.

LABOR AND MATERIAL PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, that _____

(Name of CONTRACTOR)

of _____
(Address of CONTRACTOR)

as Principal hereinafter called Principal, and

(Name of Surety)

of _____
(Address of Surety)

_____, a Corporation, organized and existing under the laws of the State of _____, as Surety, hereinafter called Surety, are held and firmly bound unto the Town of Narragansett as Obligee, hereinafter called the Obligee, in the full penal sum of _____ dollars (\$_____) in lawful money of the United States for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT WHEREAS said Principal has entered into a certain written Contract with said Obligee, dated the _____ day of _____, 20____, which written Contract provides for the which Contract, together with all Plans and Specifications now made or which may hereafter be made in extension, modification of alteration thereof, are hereby referred to, incorporated in and made a part of this Bond as though herein fully set forth.

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the Work provided for in such Contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs or machinery, equipment and tools, consumed or used in connection with the construction of such Work, and all insurance premiums on said Work and for all labor, performed in such Work whether by subcontractor or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, HOWEVER, that this Bond is executed, pursuant to the provision of the General Statutes of the State of Rhode Island and the rights and liabilities hereunder shall be determined and limited by said sections to the same extent as if they were copies at length herein.

PROVIDED, FURTHER, that the said Surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the Work to be performed there under or the Specifications accompanying the same shall in any wise affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the Work or to the Specifications.

PROVIDED, FURTHER, that no final settlement between the Obligee and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, the said principal and surety have signed and sealed this instrument this ____ day of _____, 20__.

ATTEST:

Principal

(Principal) Secretary

By _____(S)

(SEAL)

Witness as to Principal

ATTEST:

Surety

(Surety) Secretary

(SEAL)

By _____
Attorney-in-Fact

Witness as to Surety

NOTE: Date of Bond must not be prior to date of Contract. If CONTRACTOR is Partnership, all partners should execute bond.

IMPORTANT: Surety companies executing Bonds must appear on the U.S. Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Rhode Island.

NOTICE OF AWARD

TO: _____

**PROJECT DESCRIPTION: REHABILITATION OF KINNEY AVE. & NORTH END
WATER STORAGE TANKS**

The OWNER has considered the BID submitted by you dated _____ for the above-referenced WORK in response to its Invitation to Bid and the Standard & Special Instructions to Bidders.

You are hereby notified that your BID has been accepted for items in the amounts shown in the Bid Schedule.

You are required by the Standard & Special Instructions to Bidders to execute the Agreement and furnish the required CONTRACTOR'S PERFORMANCE BOND, LABOR AND MATERIAL PAYMENT BOND, and Certificates Of Insurance within fifteen (15) calendar days from the date of this NOTICE to you. The bond forms contained within the Contract Documents must be used. Substitute bond forms will not be accepted.

If you fail to execute said Agreement and to furnish said BONDS and CERTIFICATES OF INSURANCE within fifteen (15) days from the date of this NOTICE, said OWNER will be entitled to consider all your rights arising out of the OWNER'S acceptance of your BID as abandoned, and as a forfeiture of your BID BOND. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER.

Dated this _____ day of _____, 2015.

TOWN OF NARRAGANSETT, RHODE ISLAND
OWNER

BY: Jeffry Ceasrine, P.E.

TITLE: Town Engineer

Agenda Item # _____ Date: _____

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby acknowledged by _____
this the _____ day of _____ 2015. (Company Name)

BY: _____

TITLE: _____

NOTICE TO PROCEED

TO: XXXXX

DATE: XXXXX

PROJECT: REHABILITATION OF KINNEY AVE. & NORTH END WATER STORAGE
TANKS

You are hereby notified to commence WORK in accordance with the Bid Proposal dated XXXX,
on or before XXXX and you are to complete the WORK on or before October 31, 2016.

TOWN OF NARRAGANSETT, RHODE ISLAND
OWNER

BY Jeffrey Ceasrine, P.E.
TITLE Town Engineer

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is
hereby acknowledged by (name of Bidder)

this the _____ day of _____, 2015.

By

Title

DIVISION OF PROFESSIONAL REGULATION

CHAPTER 37-12

CONTRACTORS' BONDS

SECTION

37-12-1. Contractors required to give bond -- Terms and conditions.

37-12.1-1. Definition of terms.

37-12.1-2. Substitution of security for retained earnings by designers.

37-12.1-3. Deduction from retained earnings.

37-12.1-4. Endorsement on Securities.

37-12.1-5. Applicability.

37-12-2. Rights of persons furnishing labor and materials.

37-12-3. Remedies of creditors and state
Priority of claims.

SECTION

37-12-4. Intervention by creditor in suit brought by state.

37-12-5. Time limitation on creditors' actions.

37-12-6. Intervention in suit brought by creditor - Consolidation of suits

37-12-7. Notice of pendency of suit.

37-12-8. Certified copies of documents.

37-12-9. Payment into court by surety -- Discharge.

37-12-10. Retainers relating to contracts for public works or sewer or water main construction.

37-12-11. Substitution of securities for retained earnings.

DIVISION OF PROFESSIONAL REGULATION

CHAPTER 37-12

CONTRACTORS' BONDS

37-12-1. Contractors required to give bond -- Terms and conditions. -- Every person (which word for the purposes of this chapter shall include a copartnership, a number of persons engaged in a joint enterprise, or a corporation), before being awarded a contract by the department of transportation or by the department of administration, as the case may be, and every person awarded such a contract as a general contractor or construction or project manager for the construction, improvement, completion, or repair of any public road or portion thereof or of any bridge in which the contract price shall be in excess of five hundred dollars (\$500), or for a contract for the construction, improvement, completion or repair of any public building, or portion thereof, shall be required to furnish to the respective department a bond of such person to the state, with good and sufficient surety or sureties (hereafter in this chapter referred to as surety), acceptable to the respective department, in a sum not less than fifty percent (50%) and not more than one hundred percent (100) of the contract price, conditioned that the contractor, principal in the bond, the person's executors, administrators, or successors, shall in all things, well and truly keep and perform the covenants, conditions, and agreements in the contract, and in any alterations thereof made as therein provided, on the person's part to be kept and performed, at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless the state, the respective department, and all of its officers, agents, and employees, as therein stipulated, and shall also promptly pay for all such labor performed or furnished and for all such materials and equipment furnished, (which as to equipment shall mean payment of the reasonable rental value, as determined by the respective department, of its use during the period of its use), as shall be used in the carrying on of the work covered by the contract, or shall see that they are promptly paid for, whether or not the labor is directly performed for or furnished to the contractor or is even directly performed upon the work covered by the contract, and whether or not the materials are furnished to the contractor or become component parts of the work, and whether or not the equipment is furnished to the contractor or even directly used upon the work; and the bond shall contain the provisions that it is subject to all such rights and powers of the respective department and such other provisions as are set forth in the contract and the plans, specifications, and proposal incorporated by reference in the contract, and that no extension of the time of performance of the contract or delay in the completion of the work thereunder or any alterations thereof, made as therein provided, shall invalidate the bond or release the liability of the surety thereunder. Provided, however, that for good cause shown, the director of the department of administration may waive the requirements

of this section for contracts not in excess of fifty thousand dollars (\$50,000).

37-12.1-1. Definition of terms. -- Terms used in this chapter shall be construed as follows:

(a) "Designers", means any person, firm or corporation duly authorized pursuant to the laws of this state to engage in the practice of architecture and/or engineering within this state.

(b) "Public works contract" means a contract to perform design or planning services by a designer with the state or any agency or governmental subdivisions thereof.

(c) "Retained earnings" means any moneys or earned estimates withheld from a designer pursuant to the terms of a public works contract.

37-12.1-2. Substitution of security for retained earnings by designers. -- Where any public works contract provides for the holding of retained earnings from a designer, the designer may from time to time withdraw the whole or any portion of the amount retained upon either depositing with the general treasurer:

(1) United States treasury bonds, United States treasury notes, United States treasury certificates of indebtedness, or United States treasury bills, or

(2) Bonds or notes of the state of Rhode Island; or

(3) Bonds of any political subdivision of the state of Rhode Island. With respect to the deposit of securities, the general treasurer shall, on a regular basis, collect all interest or income on the securities so deposited and shall pay the same when and as collected to the designer depositing such securities. If the security is in the form of coupon bonds, the general treasurer shall deliver each coupon as it matures to the designer.

37-12.1-3. Deduction from retained earnings. -- In the event that pursuant to the terms of the public works contract it is necessary to deduct any sum from retained earnings, the state or governmental unit or agency thereof shall first apply such deduction against sums not withdrawn and thereafter from the proceeds of the sale of any securities deposited or from the income earned on such securities, whichever is applicable.

37-12.1-4. Endorsement on securities. -- All securities deposited with the general treasurer pursuant to this chapter shall be properly endorsed by the designer in such manner as to enable the general treasurer to carry out the provisions of this chapter.

37-12.1-5. Applicability. -- This chapter shall apply to all retained earnings held pursuant to any public works contract as of [June 16, 1991].

37-12.2. Rights of persons furnishing labor and materials. -- Every person who shall have performed labor and every person who shall have furnished or supplied labor, material, or equipment in the prosecution of the work provided for in the contract, in respect of which a payment bond is furnished under section 37-12-1, and who has not been paid in full therefore before the expiration of a period of ninety (90) days after the day on which the last of the labor was performed or furnished by him or her, or material or equipment furnished or supplied by him

or her for a claim is made, shall have the right to sue on the payment bond for the amount, or the balance thereof, unpaid at the time of institution of the suit and to prosecute the action to final execution and judgment for the sum or sums justly due him or her; provided, however, that any person having direct contractual relationship with a subcontractor but no contractual relationship express or implied with the contractor furnishing the payment bond shall have a right of action upon the payment bond upon giving written notice to the contractor within ninety (90) days from the date on which the person furnished or performed the last of the labor, or furnished or supplied the last of the material or equipment for which the claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the labor was furnished or performed or the material or equipment was furnished or supplied. The notice shall be served by mailing the same by certified mail, postage prepaid, in an envelope addressed to the contractor at any place he or she maintains an office or conducts his or her business, or his or her residence.

37-12-3. Remedies of creditors and state Priority of claims. -- The remedy on the bond shall be by a civil action brought in the superior court for the counties of Providence and Bristol, and, in any suit brought on the bond, the rights of the state shall be prior to those of all creditors; the rights of persons who shall have performed labor as aforesaid shall be prior to the rights of all other creditors, and there shall be no priorities among laborers or among other creditors under the bond. The state, either after having recovered a judgment against the contractor on the contract or without having recovered a judgment, may bring a suit on the bond against the contractor and surety on the bond, and may join as parties defendant in the suit any persons claiming to have rights under the bond as creditors; and, if it has not brought such a suit, it may at any time before a final and conclusive decree, intervene and become a party in any suit brought, as hereafter provided in this chapter, by any person claiming to be a creditor under the bond.

37-12-4. Intervention by creditor in suit brought by state. -- Any person claiming to be a creditor under the bond may at any time intervene and become a party in any pending suit brought as aforesaid by the state on the bond, and by so intervening may have the rights to the person adjudicated in the suit.

37-12-5. Time limitation on creditors, actions. -- No suit instituted under section 37-12-2 shall be commenced after the expiration of two (2) years, or under the maximum time limit as contained within any labor or material payment bond required under section 37-12-1, whichever period is longer, after the day on which the last of the labor was furnished or performed or material or equipment was furnished or supplied by any person claiming under the section.

37-12-6. Intervention in suit brought by creditor -Consolidation of suits. -- When a suit has been so brought on the bond by a person claiming to be a creditor under the bond and is pending, any other person claiming to be a creditor under the bond may intervene and become a

party in the first suit thus brought and pending and by so intervening may have the rights of the other person adjudicated in the suit. If two (2) or more of the suits be filed in the court on the same day, the one in which the larger sum shall be claimed shall be regarded as the earlier suit. All suits brought upon the bond as provided in this chapter shall be consolidated together by the court and heard as one suit.

37-12-7. Notice of pendency of suit. -- In any suit brought under the provisions of this chapter such personal notice of the pendency of the suit as the court may order shall be given to all such known creditors and persons claiming to be creditors under the bond-as shall not have entered their appearances in the suit and, in addition to the notice, notice of the pendency of the suit shall be given by publication in some newspaper published in this state of general circulation in the city or town or every city or town in which the work covered by the contract was carried on, once a week for three (3) successive weeks, in such form as the court may order. The court, however, may dispense with the notices if satisfied that sufficient notices shall have been given in some other suit brought under the provisions of this chapter.

37-12-8. Certified copies of documents. Any person claiming to be a creditor under the bond and having filed a claim with the respective department, in accordance with the requirements of section 37-12-2, shall have the right, at any time when the person could under this chapter file a suit or intervene in a pending suit, to require the respective department to furnish to the person certified copies of the contract, proposal, plans and specifications, and of the bond.

37-12-9. Payment into court by surety -- Discharge. -- The surety on the bond may pay into the registry of the court, for distribution among those who may be or become entitled thereto under the decree of the court, the penal sum named in the bond less any amount which the surety may have paid to the state in satisfaction of the liability of the surety to the state under the bond, and then shall be entitled to be discharged from all further liability under the bond.

37-12-10. Retainers relating to contracts for public works or sewer or water main construction. -- (a) Upon substantial completion of the work required by a contract with any municipality, or any agency or political subdivision thereof, for the construction, reconstruction, alteration, remodeling, repair, or improvement of sewers and water mains, or any public works project defined in section 37-13-1, the awarding authority may deduct from its payment a retention to secure satisfactory performance of the contractual work- not exceeding five percent (5%) of the contract price unless otherwise agreed to by the parties. In the case of periodic payments, the awarding authority may deduct from its payment a retention to secure satisfactory performance of the contractual work not exceeding five percent (5%) of the approved amount of any periodic payment unless otherwise agreed to by the parties.

(b) The five percent (5%) retained shall be paid to any contractor or subcontractor within ninety (90) days of the date the work is accepted by the awarding authority unless a dispute exists with respect to the work. If payment is not made within ninety (90) days for any reason including a dispute, which, if resolved and it is not the fault of the contractor, then the 100-. will not be assessed unless the dispute is resolved to have been the fault of the contractor or subcontractor, interest shall be assessed at the rate of ten percent (10%) per annum on all money which is to be paid to the contractor or subcontractor.

(c) The five percent (5%) retained shall be paid to any contractor or subcontractor within ninety (90) days of the date his or her work is completed and accepted by the awarding authority. If payment is not made, interest shall be assessed at the rate of ten percent (10%) per annum.

(d) There shall also be deducted and retained from the contract price an additional sum sufficient to pay the estimated cost of municipal police traffic control on any public works project. Municipalities shall directly pay the officers working traffic details and shall bill and be reimbursed by the withholding authority for which the contract is being performed every thirty (30) days until the project is complete.

37-12-11. Substitution of securities for retained earnings.-- Where any public works contract as defined by section 37-13-1 provides for the retention of earned estimates by the state of Rhode Island, the contractor may, from time to time, withdraw the whole or any portion of the amount retained for payments to the contractor pursuant to the terms of the contract, upon depositing with the general treasurer (1) United States treasury bonds, United States treasury notes, United States treasury certificates of indebtedness, or United States treasury bills, or (2) bonds or notes of the state of Rhode Island, or (3) bonds of any political subdivision in the state of Rhode Island. No amount shall be withdrawn in excess of the market value of the securities at the time of deposit or of the par value of the securities, whichever is lower. The general treasurer shall, on a regular basis, collect all interest or income on the obligations so deposited and shall pay the same, when and as collected, to the contractor who deposited the obligations. If the deposit is in the form of coupon bonds, the general treasurer shall deliver each coupon as it matures to the contractor. Any amount deducted by the state, or by any public department or official thereof, pursuant to the terms of the contract, from the retained payments otherwise due the contractor, shall be deducted, first from that portion of the retained payments for which no security has been substituted, then from the proceeds of any deposited security. In the latter case, the contractor shall be entitled to receive interest, coupons, or income only from those securities which remain after the amount has been deducted. The securities so deposited shall be properly endorsed by the contractor in such manner so as to enable the general treasurer to carry out the provisions of this section.

DIVISION OF PROFESSIONAL REGULATION

CHAPTER 37-13

LABOR AND PAYMENT OF DEBTS BY CONTRACTORS

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SECTION.

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DIVISION OF PROFESSIONAL REGULATION

CHAPTER 37-13

LABOR AND PAYMENT OF DEBTS BY CONTRACTORS

37-13-1. "Public works" defined. -- "Public works" as used in this chapter shall mean any public work consisting of grading, clearing, demolition, improvement, completion, repair, alteration, or construction of any public road or any bridge, or portion thereof, or any public building or portion thereof, or any heavy construction, or any public works projects of any nature or kind whatsoever.

37-13-2- "Contractor" defined -- Information required -- The term "contractor" as used in this chapter shall mean the bidder whose bid has been accepted by an authorized agency or awarding authority as the bidder possessing the skills, ability, and integrity necessary to the faithful performance of the contract or work, and who shall certify that he or she is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the contract or work. Essential information in regard to qualifications shall be submitted in such form to the awarding authority and the director of labor as the director of labor shall require. The authorized agency or awarding authority shall reserve the right to reject all bids, if it be in the public interest to do so.

37-13-3. Contractors subject to provisions -- weekly payment of employees. -- All contractors, who have been awarded contracts for public works by an awarding agency or authority of the state or of any city, town, committee, or by any person or persons therein, in which state or municipal funds are used and of which the contract price shall be in excess of one thousand dollars (\$1,000) whether payable at the time of the signing of the contract or at a later date, and their subcontractors, on such public works shall pay their employees at weekly intervals and shall comply with the provisions set forth in sections 37-13-4 -- 37-13-14, inclusive and section 37-13-16.

37-13-4. Provisions applicable to public works contracts -Lists of subcontractors. -- All public works shall be done by contract, subject to the same provisions of law relating thereto and to the letting thereof, which are applicable to similar contracts of the awarding authority or authorized agency, hereinafter called the "proper authority," in the general location where the work is to be performed and which are not contrary to the provisions of sections 37-13-1 -- 37-13-14, inclusive, and section 37-13-16. Each contractor after the award of a contract for public works shall submit to the proper authority a list of his or her subcontractors of any part or all of

the work. The list shall be submitted in such manner or form as the proper authority shall uniformly require from contractors in all public works.

37-13-5. Payment for trucking or materials furnished -Withholding of sums due. -- A contractor or subcontractor on public works authorized by a proper authority shall pay any obligation or charge for trucking and material which have been furnished for the use of such contractor or subcontractor, in connection with the public works being performed by him or her, within ninety (90) days after the obligation or charge is incurred or the trucking service has been performed or the material has been delivered to the site of the work, whichever is later. When it is brought to the notice of the proper authority in a city or town, or the proper authority in the state having supervision of the contract, that the obligation or charge has not been paid by the contractor or subcontractor, the proper authority may deduct and hold for a period not exceeding sixty (60) days, from sums of money due to the contractor or subcontractor, the equivalent amount of such sums certified by a trucker or materialman creditor as due him or her, as provided in this section, and which the proper, authority determines is reasonable for trucking performed or materials furnished for the public works.

37-13-6. Ascertainment of prevailing rate of wages and other payments-- Specification of rate in call for bids and in contract- Before awarding any contract for public works to be done, the proper authority shall ascertain from the director of labor the general prevailing rate of the regular, holiday, and overtime wages paid and the general prevailing payments on behalf of employees only, to lawful welfare, pension, vacation, apprentice training, and educational funds (payments to the funds must constitute an ordinary business expense deduction for federal income tax purposes by contractor's) in the city, town, village, or other appropriate political subdivision of the state in which the work is to be performed, for each craft, mechanic, teamster, laborer, or type of workman needed to execute the contract for the public works, and shall specify in the call for bids for the contract and in the contract itself the general prevailing rate of the regular, holiday, and overtime wages paid and the payments on behalf of employees only, to the welfare, pension, vacation, apprentice training, and education funds existing in the locality for each craft, mechanic, teamster, laborer, or type of worker needed to execute the contract or work.

37-13-7. Specification in contract of amount and frequency of payment of wages- -- (a) Every call for bids for every contract in excess of one thousand dollars (\$1,000), to which the state of Rhode Island or any political subdivision thereof is party, for construction, alteration, and/or repair, including painting and decorating, of public buildings or public works of the state of Rhode Island or any political subdivision thereof, and which requires or involves the employment of employees, shall contain a provision stating the minimum wages to be paid various types of employees which shall be based upon the wages that will be determined by the director of labor to be prevailing for the corresponding types of employees employed on projects

of a character similar to the contract work in the city, town, village, or other appropriate political subdivision of the state of Rhode Island in which the work is to be performed; and every contract shall contain a stipulation that the contractor or his or her subcontractor shall pay all the employees employed directly upon the site of the work, unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account, the full amounts accrued at time of payment computed at wage rates not less than those stated in the call for bids, regardless of any contractual relationships which may be alleged to exist between the contractor or subcontractor and the employees, and that the scale of wages to be paid shall be posted by the contractor in a prominent and easily accessible place at the site of the work; and the further stipulation that there may be withheld from the contractor so much of the accrued payments as may be considered necessary to pay to the employees employed by the contractor, or any subcontractor on the work, the difference between the rates of wages required by the contract to be paid the employees on the work and the rates of wages received by the employees and not refunded to the contractor, subcontractors, or their agents.

(b) The terms "wages," "scale of wages," "wage rates," "minimum wages," and "prevailing wages" shall include:

- (1) The basic hourly rate of pay; and
- (2) The amount of:

(A) The rate of contribution made by a contractor or subcontractor to a trustee or to a third person pursuant to a fund, plan, or program; and

(B) The rate of costs to the contractor or subcontractor which may be reasonably anticipated in providing benefits to employees pursuant to an enforceable commitment to carry out a financially responsible plan or program which was communicated in writing to the employees affected, for medical or hospital care, pensions on retirement or death, compensation for injuries or illness resulting from occupational activity, or insurance to provide any of the foregoing, for unemployment benefits, life insurance, disability and sickness insurance, or accident insurance, for vacation and holiday pay, for defraying costs of apprenticeship or other similar programs, or for other bona fide fringe benefits, but only where the contractor or subcontractor is not required by other federal, state, or local law to provide any of the benefits: provided, that the obligation of a contractor or subcontractor to make payment in accordance with the prevailing wage determinations of the director of labor insofar as this chapter of this title and other acts incorporating this chapter of this title by reference are concerned may be discharged by the making of payments in cash, by the making of contributions of a type referred to in subsection (2)(b), or by the assumption of an enforceable commitment to bear the costs of a plan or program of a type referred to in this subdivision, or any combination thereof, where the aggregate of any payments, contributions, and costs is not less than the rate of pay described in subsection (b)(1) plus the amount referred to in subsection (b) (2). (c) The term "employees," as used in this

section, shall include employees of contractors or subcontractors performing jobs on various types of public works including mechanics, apprentices, teamsters, chauffeurs, and laborers engaged in the transportation of gravel or fill to the site of public works or the removal of gravel or fill from the site of public works or the transportation or removal of gravel or fill from one location to another on the site of public works, and the employment of the employees shall be subject to the provisions of subsections (a) and (b).

37-13-8. Investigation and determination of prevailing wages -- Filing of schedule.--

The director of labor shall investigate and determine the prevailing wages and payments made to or on behalf of employees, as set forth in section 37-13-7, paid in the trade or occupation in the city, town, village, or other appropriate political subdivision of the state and keep a schedule on file in his or her office of the customary prevailing rate of wages and payments made to or on behalf of the employees which shall be open to public inspection. In making a determination, the director of labor may adopt and use such appropriate and applicable prevailing wage rate determinations as have been made by the secretary of labor of the United States of America in accordance with the Davis-Bacon Act, as amended [40 U.S.C. section 276a].

37-13-9. Statutory provisions included in contracts. -- A copy of sections 37-13-5, 37-13-6, and 37-13-7 shall be inserted in all contracts for public works awarded by the state or any city or town, committee, an authorized agency or awarding authority thereof, or any person or persons in their behalf in which state or municipal funds are used if the contract price be in excess of one thousand dollars (\$1,000).

37-13-10. Overtime Compensation. -- Labor performed under the provisions of sections 37-13-1 -- 37-13-16, inclusive, during the period of forty (40) hours in any one week and during the period of eight (8) hours in any one day, shall be considered a legal weeks' work or a legal day's work, as the case may be, and any number of hours of employment in any one week greater than the number of forty (40) hours or in any one day greater than the number of eight (8) hours shall be compensated at the prevailing rate of wages for overtime employment; provided, however, when the director of labor has determined in the investigation provided for in sections 37-13-7 and 37-13-8 that there is a prevailing practice in a city, town, or other appropriate political subdivision to pay an overtime rate of wages for work of any craft, mechanic, teamster, laborer, or type of worker needed to execute the work other than hours worked in any one week greater than the number of forty (40) or in hours worked in any one day greater than the number of eight (8), then the prevailing practice shall determine the legal workday and the legal workweek in the city or town for the work and the prevailing rate of overtime wages shall be paid for such work in excess of that legal workday or week, as the case may be.

37-13-11. Posting of prevailing wage rates. -- Each contractor awarded a contract for public works with a contract price in excess of one thousand dollars (\$1,000), and each

subcontractor who performs work on such public works, shall post in conspicuous places on the project, where covered workers are employed, posters which contain the current, prevailing rate of wages and the current, prevailing rate of payments to the funds required to be paid for each craft or type of worker employed to execute the contract as set forth in sections 37-13-G and 37-13-7. Posters shall be furnished to contractors and subcontractors by the director of labor, who shall determine the size and context thereof from time to time, at the time a contract is awarded. A contractor or subcontractor who fails to comply with the provisions of this section shall be deemed guilty of a misdemeanor and shall pay to the director of labor one hundred dollars (\$100) for each calendar day of noncompliance as determined by him or her. Contracts set forth in this section shall not be awarded by the state, any city or town or any agency thereof until the director of labor has prepared and delivered the posters to the division of purchases, if the state or any agency thereof is the proper authority, or to the city or town or an agency thereof, if it is the proper authority, and the contractor to whom the contract is to be awarded.

37-13-12. Wage records of contractors. -- Each contractor awarded a contract with a contract price in excess of one thousand dollars (\$1,000.) for public works, and each subcontractor who performs work on such public works, shall keep an accurate record showing the name, occupation, and actual wages paid to each worker employed by him or her and the payments to all the employee funds specified in sections 37-13-6 and 37-13-7 by him or her in connection with the contract or work. The director and his or her authorized representatives shall have the right to enter any place of employment at all reasonable hours for the purpose of inspecting the wage records and seeing that all provisions of this chapter are complied with.

37-13-12.1. Obstruction of enforcement. -- Any effort of any employer to obstruct the director and his or her authorized representatives in the performance of their duties shall be deemed a violation of this chapter and punishable as such.

37-13-12.2. Subpoena powers. -- The director and his or her authorized representatives shall have power to administer oaths and examine witnesses under oath, issue subpoenas, subpoenas duces tecum, compel the attendance of witnesses, and the production of papers, books, accounts, records, payrolls, documents, and testimony, and to take depositions and affidavits in any proceeding before the director.

37-13-12.3. Compelling obedience to subpoenas. -- In case of failure of any person to comply with any subpoena lawfully issued, or subpoena duces tecum, or on the refusal of any witness to testify to any matter regarding which he may be lawfully interrogated, it shall be the duty of the superior court, or any judge thereof, on application by the director, to compel obedience by proceedings in the nature of those for contempt.

37-13-12.4. Penalty for violations.-- Except as otherwise provided in this chapter, any employer who shall violate, or fail to comply with any of the provisions of this chapter shall be guilty of a misdemeanor and upon conviction thereof shall be punished by a fine of not less than

fifty dollars (\$50.00) nor more than one hundred dollars (\$100.00) for each separate offense, or by imprisonment for not less than ten (10) nor more than ninety (90) days, or by both such fine and imprisonment. Each day of failure to pay wages due an employee at the time specified in this chapter shall constitute a separate and distinct violation.

37-13-13. Furnishing payroll record to director of labor. Each contractor awarded a contract with a contract price in excess of one thousand dollars (\$1,000) for public works, and each subcontractor who performs work on public works, shall furnish a certified copy of his or her payroll record of his or her employees employed upon the public works to the director of labor on a weekly basis, for the preceding week. The director of labor may promulgate reasonable rules and regulations to enforce the provisions of this section. A contractor or subcontractor who fails to comply with the provisions of this section shall be deemed guilty of a misdemeanor and shall pay to the director of labor one hundred dollars (\$100) for each calendar day of noncompliance as determined by the director of labor.

37-13-13.1. Audits of wage records of out-of-state contractors and subcontractors. -- Out-of-state contractors or subcontractors who perform work on public works in this state authorize the director of labor to conduct wage and hour audits of their payroll records pursuant to the provisions of chapter 14 of title 28.

37-13-14. Contractor's bond. -- (a) The state or any city, town, agency, or committee therein awarding contracts for public works shall require the contractor awarded a contract with a contract price in excess of five thousand dollars (\$5,000) for public works to file with the proper authority good and sufficient bond with surety furnished by any surety company authorized to do business in the state, conditioned upon the faithful performance of the contract and upon the payment for labor performed and material furnished in connection therewith, such bond to contain the terms and conditions set forth in chapter 12 of this title, and to be subject to the provisions of that chapter.

(b) Provided, however that for good cause shown in state public works contracts, the director of the department of administration may waive the requirements of this section in regards to materials furnished only for contracts not in excess of fifty thousand dollars (\$50,000).

37-13-14.1. Enforcement. -- Hearings. -- (a) Before issuing an order or determination, the director of labor shall order a hearing thereon at a time and place to be specified, and shall give notice thereof, together with a copy of such complaint or the purpose thereof, or a statement of the facts disclosed upon such investigation, which notice shall be served personally or by mail on any person, firm or corporation affected thereby; such person, firm or corporation shall have an opportunity to be heard in respect to the matters complained of at the time and place specified in such notice, which time shall be not less than five (5) days from the service of the notice personally or by mail. Said hearing shall be held within ten (10) days from the order of hearing. The hearing shall be conducted by the director of labor or his or her designee. The hearing

officer in such hearing shall be deemed to be acting in a judicial capacity, and shall have the right to issue subpoenas, administer oaths and examine witnesses. The enforcement of a subpoena issued under this section shall be regulated by Rhode Island civil practice law and rules. Such hearing shall be expeditiously conducted and upon such hearing the hearing officer shall determine the issues raised thereon and shall make a determination and enter an order within ten (10) days of the close of the hearing, and forthwith serve a copy of such order, with a notice of the filing thereof, upon the parties to such proceeding, personally or by mail. Such order shall dismiss the charges or direct payment of wages or supplements found to be due, including interest at the rate of twelve percentum (12%) per annum, from the date of the underpayment to the date of payment, and may direct payment of reasonable attorney's fees and costs to the complaining party.

(b) In addition to directing payment of wages or supplements including interest found to be due, such order shall also require payment of a further sum as a civil penalty in an amount equal to three times the total amount found to be due. Further, if the amount of salary owed to an employee pursuant to this chapter but not paid to said employee in violation of thereof exceeds five thousand dollars (\$5,000), it shall constitute a misdemeanor and shall be referred to the office of the attorney general, such misdemeanor shall be punishable for a period of not more than one (1) year in prison and/or fined not more than one thousand dollars (\$1, 000).

In assessing the amount of the penalty, due consideration shall be given to the size of the employer's business, the good faith of the employer, the gravity of the violation, the history of previous violations and the failure to comply with record-keeping or other non-wage requirements. The surety of the person, firm or corporation found to be in violation of the provisions of this chapter shall be bound to pay any penalties assessed on such person, firm or corporation. The penalty shall be paid to the department of labor for deposit in the state treasury; provided, however, it is hereby provided that the general treasurer shall establish a dedicated "prevailing wages enforcement fund" for the purpose of depositing the penalties paid as provided herein. There is hereby appropriated to the annual budget of the department of labor the amount of the fund collected annually under this section, to be used at the direction of the director of labor for the sole purpose of enforcing prevailing wage rates as provided in chapter 13 of this title.

(c) For the purposes of this chapter, each day or part thereof of violation of any provision of this chapter by a person, firm or corporation, whether such violation is continuous or intermittent, shall constitute a separate and succeeding violation.

(d) In addition to the above, any person, firm, or corporation found in willful violation of any of the provisions of this chapter by the director of labor, an awarding authority, or the hearing officer, shall be ineligible to bid on or be awarded work by an awarding authority or perform any such work for a period of no less than eighteen (18) months and no more than thirty-six (36) months from the date of the order entered by the hearing officer. Once a person, firm or

corporation is found to be in violation of this chapter, all pending bids with any awarding authority shall be revoked, and any bid awarded by an awarding authority prior to the commencement of the work shall also be revoked.

(e) In addition to the above, any person, firm or corporation found to have committed two (2) or more willful violations in any period of eighteen (18) months of any of the provisions of this chapter by the hearing officer, which violations are not arising from the same incident, shall be ineligible to bid on or be awarded work by an awarding authority or perform any such work for a period of sixty (60) months from the date of the second violation.

(f) The order of the hearing officer shall remain in full force and effect unless stayed by order of the superior court.

(g) The director of labor, awarding authority or hearing officer shall notify the bonding company of any person, firm or corporation suspected of violating any section of this chapter. Such notice shall be mailed certified mail, and shall enumerate the alleged violations being investigated.

(h) In addition to the above, any person, firm or corporation found to have willfully made a false or fraudulent representation on certified payroll records shall be referred to the office of the attorney general. Such false or fraudulent representation shall be considered a misdemeanor, said misdemeanor shall be punishable for a period of not more than one (1) year in prison and/or fined one thousand dollars (\$1,000). Further, any person, firm or corporation found to have willfully made a false or fraudulent representation on certified payroll records shall be required to pay a civil penalty to the department of labor in an amount of no less than two thousand dollars (\$2,000) and not greater than fifteen thousand dollars (\$15,000) per representation.

37-13-15. Review. -- (a) There is hereby created an appeals board which shall be comprised of three (3) members who shall be appointed by the governor; provided, however, that each member of the appeals board shall have at least five (5) years experience with prevailing wage rates as they apply to the construction industry. The members of such appeals board shall serve without compensation. The members of the appeals board shall be appointed for terms of three (3) years except that of the three (3) members originally appointed by each of the appointing authorities: one (1) shall be appointed for a term of one (1) year, one (1) shall be appointed for a term of two (2) years and one (1) for a term of three (3) years.

(b) Any person aggrieved by any action taken by the director of labor or his or her designated hearing officer under the authority of this chapter, or by the failure or refusal of the director of labor to take any action authorized by this chapter, may obtain a review thereof for the purpose of obtaining relief from the action or lack of action by filing a petition for administrative review and relief, to the appeals board as provided herein. Such petition for administrative review shall be filed within twenty (20) days of the action taken by the director of labor or designated hearing

officer. The petition for administrative review shall be heard within ten (10) days of the date of filing. An aggrieved person under this section shall include:

- (1) Any person who is required to pay wages to his or her employees or make payments to a fund on behalf of his or her employees, as provided in this chapter;
- (2) Any person who is required to be paid wages for his or her labor or on whose behalf payments are required to be paid to funds, as provided by this chapter;
- (3) The lawful collective bargaining representative of a person defined in subdivision (2) above;
- (4) A trade association of which a person defined in subdivision (1) above is a member;
- (5) A proper authority as defined in this chapter;
- (6) A contractor who submitted a bid for work to be or which has been awarded under the provisions of this chapter or a trade association of which he or she is a member, and
- (7) A labor organization which has one or more written collective bargaining agreements with one or more employers or a trade association which sets forth the hours, wages, and working conditions of a craft, mechanic, teamster, or type of worker needed to execute the work, as provided in this chapter to the extent that it would be affected by the action or the failure to act of the director of labor or the hearing officer.

(c) Any aggrieved person as defined herein may obtain a review of a decision of the appeals board by filing a petition in the superior court in Providence county pursuant to the provisions of the administrative procedures act, praying for review and relief and the petition shall follow the course of and be subject to the procedures for causes filed in the court.

(d) The director is hereby empowered to enforce his or her decision and/or the decision of the appeals board in the superior court for the county of Providence.

37-13-16- --- Termination of work on failure to pay agreed wages -- Completion of work.
-- Every contract within the scope of this chapter shall contain the further provision that in the event it is found by the director of labor that any employee employed by the contractor or any subcontractor directly on the site of the work covered by the contract has been or is being paid a rate of wages less than the rate of wages required by the contract to be paid as aforesaid, the awarding party may, by written notice to the contractor or subcontractor, terminate his or her right as the case may be, to proceed with the work, or such part of the work as to which there has been a failure to pay the required wages, and shall prosecute the work to completion by contract or otherwise, and the contractor and his or her sureties shall be liable to the awarding party for any excess costs occasioned the awarding authority thereby.

SECTION.

37-13.1-1. Suits allowed -- Jurisdiction --
Statute of limitations -- Procedure.

37-13-1-1- Suits allowed -- Jurisdiction -- Statute of limitations -- Procedure.--Any person, firm, or corporation which is awarded a contract subsequent to July 1, 1977 with the state of Rhode Island, acting through any of its departments, commissions, or other agencies, for the design, construction, repair, or alteration of any state highway, bridge, or public works other than those contracts which are covered by the public works arbitration act may, in the event of any disputed claims under the contract, bring an action against the state of Rhode Island in the superior court for Providence county for the purpose of having the claims determined, provided notice of the general nature of the claims shall have been given in writing to the department administering the contract in accordance with the contract specifications set forth for the specific contract. No action shall be brought under this section later than one year from the date of the acceptance of the work by the agency head as so evidenced; provided, however, that no action shall be brought under this section on any contract awarded prior to July 1, 1977. Acceptance of any amount offered as final payment shall preclude any person, firm, or corporation from bringing a claim under this section. The action shall be tried to the court without a jury. All legal defenses except governmental immunity shall be reserved to the state. Any action brought under this section shall be privileged in respect to assignment for trial upon motion of either party.

GENERAL CONDITIONS

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PART I

ARTICLE 1: CONTRACT AND CONTRACT DOCUMENTS

The Drawings, Specifications, and addenda enumerated in Article 1 of the Special Conditions, the Invitation To Bid, the Standard Instructions To Bidders, the Special Instructions To Bidders, and the Bid Proposal as accepted by the OWNER, shall be binding upon the parties to this Agreement as if fully set forth therein. Whenever the terms "Contract Documents" are used, it shall mean and include this Contract, Special Conditions, General Conditions, the Standard Instructions To Bidders, the Special Instructions To Bidders, the Bid Proposal, Addenda, the Technical Specifications and the Drawings. The OWNER shall interpret his own requirements. In case of conflict or inconsistency between the provisions of the signed portions of the Contract Documents and those of the Specifications, the provision of the signed portions shall govern.

Everything necessary for the proper completion of the work and successful operation thereof, even though neither definitely shown on the plan or mentioned in the specifications, shall be furnished in a manner corresponding with the rest of the work without extra charge. This is intended to refer to the smaller details necessary for a workmanlike job, and not usually specified or indicated on the drawings.

ARTICLE 2: DEFINITIONS

The following terms as used in this Contract are defined as follows:

- a. **CHANGE ORDER** - A written order to the CONTRACTOR authorizing an addition, deletion, or revision in the Work within the general scope of the Contract Documents, or authorizing an adjustment in the Contract Price or Contract Time.
- b. **CONTRACT DOCUMENTS** - The Contract, including Advertisement For Bids, Information For Bidders, Bid, Bid Bond, Agreement, Payment Bond, Performance Bond, General Conditions, Special Conditions, Technical Specifications, Notice Of Award, Notice To Proceed, Change Order, Drawings, and Addenda.
- c. **CONTRACTOR** - A person, firm, or corporation with whom the Contract is made by the OWNER.
- d. **DRAWINGS** - The part of the Contract Documents which show the characteristics and scope of the Work to be performed, and which have been prepared by the Engineer.
- e. **ENGINEER** - Shall mean for the purpose of this Contract the party who shall act as the authorized representative of the OWNER whenever reference is made for such authorization.
- f. **FIELD ORDER** - A written order effecting a change in the Work not involving an

adjustment in the Contract Price or an extension of the Contract Time, issued by the Engineer to the CONTRACTOR during construction.

- g. NOTICE OF AWARD - The written notice of the acceptance of the Bid from the OWNER to the successful Bidder.
- h. NOTICE TO PROCEED - Written communication issued by the OWNER to the CONTRACTOR authorizing him to proceed with the Work and establishing the date of commencement of the Work.
- i. OWNER - Shall mean, for the purpose of this Contract, the party defined in the Agreement section of the Contract Documents.
- j. RESIDENT PROJECT REPRESENTATIVE - The authorized representative of the OWNER who is assigned to the Project Site or any part thereof.
- k. SHOP DRAWINGS - All drawings, diagrams, illustrations, brochures, schedules, and other data which are prepared by the CONTRACTOR, a Subcontractor, Manufacturer, Supplier or Distributor, which illustrates how specific portions of the Work shall be fabricated or installed.
- l. SPECIFICATIONS (TECHNICAL SPECIFICATIONS) - A part of the Contract Documents consisting of written descriptions of a technical nature of materials, equipment, construction systems, standards and workmanship.
- m. SUBCONTRACTOR - A person, firm, or corporation supplying labor and materials, or only labor, for Work at the site of the Project; for, and under a separate Contract or Agreement with the CONTRACTOR.
- n. SUBSTANTIAL COMPLETION - That date as certified by the Engineer when the construction of the Project or the specified part thereof is sufficiently completed, in accordance with the Contract Documents, so that the Project or specified part can be utilized for the purpose for which it is intended.
- o. WORK ON THE PROJECT - Work to be performed at the location of the Project, including the transportation of materials and supplies to or from the site by employees of the CONTRACTOR or any Subcontractor.

ARTICLE 3: QUANTITIES OF ESTIMATE

Whenever the estimated quantities of Work to be done and materials to be furnished under this Contract are shown in any of the documents including the Bid Proposal, they are given for use in comparing bids and the right is especially reserved by the OWNER to increase or diminish them as may be deemed necessary or desirable by the OWNER. Such increases or decreases shall in no way affect this Contract, nor shall any such increases or decreases give cause for claims or

liabilities for damages.

ARTICLE 4: CONFLICTING CONDITIONS

Any provisions of these General Conditions which may be in conflict or inconsistent with any of the articles in the Special Conditions shall be void to the extent of such conflict or inconsistency.

ARTICLE 5: PROVISION OF LAW DEEMED INSERTED

Each and every provision of law and clause required by law to be inserted in this Contract shall be deemed to be inserted herein and the Contract shall be read and enforced as though it were included herein, and if through mistake or otherwise, any such provision is not inserted, or is not correctly inserted, the Contract shall forthwith be physically amended to make such insertion or correction.

ARTICLE 6: NOTICE AND SERVICE THEREOF

The service of any notice, letter, or other communication shall be deemed to have been made by one of the contracting parties on the other party to the Contract when such letter, notice, or other communication has been delivered to the legal office address of the addressee, by a duly authorized representative of the addresser in person, or when such letter, notice, or other communication has been deposited in any regularly maintained mailbox of the United States Post Office, in a properly addressed, postpaid wrapper. The date of such service shall be considered to be the date of such personal delivery or mailing.

The address of the CONTRACTOR noted in his bid and/or the address of his field office on or near the site of Work shall be considered his legal address for the purposes as set forth above.

ARTICLE 7: GRATUITIES

- a. If it is found, after notice and hearing, by the OWNER that gratuities (in the form of entertainment, gifts, or otherwise) were offered or given by the CONTRACTOR, or any agent or representative of the CONTRACTOR, to any official, employee, or agent of the OWNER, or of the State, with a view toward securing a Contract or securing favorable treatment with respect to the awarding or amending, or the making of any determinations with respect to the performance of this Contract, the OWNER, may by written notice to the CONTRACTOR, terminate the right of the CONTRACTOR to proceed under this Contract or may pursue each other's rights and remedies provided by law or under this Contract: provided, that the existence of the facts upon which the OWNER makes such findings shall be in issue and may be reviewed in proceedings pursuant to the "Remedies" Clause of this Contract.
- b. In the event this Contract is terminated as provided in Paragraph (a) hereof, the OWNER shall be entitled (1) to pursue the same remedies against the CONTRACTOR as it could

pursue in the event of a breach of the Contract by the CONTRACTOR, and (a) as a penalty in addition to any other damages to which it may be entitled by law, to exemplary damages in an amount (as determined by the OWNER) which shall be not less than three (3) nor more than ten (10) times the cost incurred by the CONTRACTOR in providing any such gratuities to any such officer or employee.

ARTICLE 8: COVENANT AGAINST CONTINGENT FEES

The CONTRACTOR warrants that no person or selling agency has been employed or retained to solicit or secure this Contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the CONTRACTOR for the purpose of securing business. For breach or violation of this warranty, the OWNER shall have the right to annul this Contract without liability or in its discretion to deduct from the Contract Price or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

ARTICLE 9: REMEDIES

Except as may be otherwise provided in this Contract, all claims, counterclaims, disputes and other matters in question between the OWNER and the CONTRACTOR arising out of or relating to this agreement or the breach thereof will be decided in a court of competent jurisdiction within the State in which the OWNER is located.

PART II

The rights and obligations of the CONTRACTOR under this Contract shall include, but not be limited to the following:

ARTICLE 10: REPRESENTATIONS OF THE CONTRACTOR

The CONTRACTOR represents and warrants:

- a. That he is financially solvent and that he is experienced and competent to perform the type of Work required under this Contract and that he is able to furnish the plant materials, supplies, or equipment that may be necessary to perform the Work as specified.
- b. That he is familiar with all Federal, State and municipal laws, ordinances, orders, and regulations which may in any way affect the Project Work, or the employment of persons thereon, including but not limited to any special acts relating to the Work or to the Project of which he is a part.
- c. That such temporary and permanent Work required by the Contract Documents to be done by him will be satisfactorily constructed and can be used for the purpose for which it was intended and that such construction will not injure any person or damage property.

- d. That he has carefully examined the Drawings, Specifications, and Addenda, if any, and the site of the Work and that from his own investigations, he has satisfied himself as to the nature and location of the Work, the character of equipment and other facilities needed for the performance of the Work, the general and local conditions, and all other items that may affect the Work.
- e. That he is aware of the hazards involved in the Work and the danger to life and property both evident and inherent and that he will conduct the Work in a careful and safe manner without injury to persons or property.

ARTICLE 11: CONTRACTOR'S OBLIGATIONS

The CONTRACTOR shall perform all Work in a good workmanlike manner, and in accordance with the plans and Specifications and any supplements thereto, and according to any directions or orders given by the OWNER. He shall furnish all supplies, materials, facilities, equipment, and means necessary or proper to perform and complete the Work required by this Contract. Unless otherwise specified, all materials incorporated in the permanent work shall be new, and both workmanship and materials shall be of good quality. The CONTRACTOR, if required, shall furnish satisfactory evidence as to the kind and quality of materials. He shall furnish, erect, maintain, and remove any construction plant or temporary Work as may be required. He alone shall be responsible for the safety, efficiency, and adequacy of his plant, appliances, and methods, and for any damage which may result from their failure or their improper construction, maintenance, or operation. The CONTRACTOR shall observe, comply with, and be subject to all terms, conditions, requirements, and limitations of the Contract and Specifications and shall do, carry on, and complete the entire Work to the satisfaction of the OWNER.

The CONTRACTOR shall be solely responsible for all the Work and shall provide all precautionary measures necessary for preventing injury to persons or damage to property. All injury or damage of whatever nature resulting from the Work or resulting to persons, property, or the Work during its progress, from whatever cause, shall be the responsibility of the CONTRACTOR.

The CONTRACTOR shall hold the OWNER and Engineer, or their duly authorized agents, harmless and defend and indemnify them against damages or claims for damages due to injuries to persons or property arising out of the execution of the Project Work, and for damages to materials furnished for the Work, for infringement of inventions, patents, and patent rights used in doing the Work, and for any act, omission, or instance of neglect by the CONTRACTOR, his agents, employees, or subcontractors.

The CONTRACTOR shall bear all losses resulting to him, including but not limited to losses sustained on account of the character, quality, or quantity of any part of the Work, or all parts of the Work, or because the nature of the conditions in or on the Project site are different from what was estimated or indicated, or on account of the weather, elements, or other causes.

It shall be the General CONTRACTOR's responsibility to coordinate the work of any subcontractor he may engage and any manufacturer's representative used in installing equipment and to furnish any incidental equipment, connections, materials, and labor not furnished by such manufacturers, suppliers, subcontractors, etc., and perform all cutting and patching to make a completely finished, operable unit, structure or piece of equipment for its intended use and satisfactory to the OWNER.

The CONTRACTOR will cooperate in every way possible with the OWNER and with other contractors. Where new work adjoins old and making connections to existing systems, the CONTRACTOR shall consult with the OWNER and/or other contractors and shall perform such work in as short time as possible at times that will least interfere with normal operation.

ARTICLE 12: TIME FOR COMPLETION AND LIQUIDATED DAMAGES

- a. It is hereby understood and mutually agreed by and between the CONTRACTOR and the OWNER that the date of beginning and the time of completion of the Work as specified in this Contract are ESSENTIAL CONDITIONS of this Contract, and it is further mutually understood and agreed that the Work embraced in this Contract shall be commenced on a date to be specified in the Notice To Proceed.
- b. The CONTRACTOR agrees that said Work shall be prosecuted regularly, diligently, and uninterruptedly at such rate of progress as will insure full completion thereof within the time specified, and further, that time of completion as agreed upon is reasonable, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.
- c. If the said CONTRACTOR shall neglect, fail or refuse to complete the Work within the time herein specified, or any proper extension thereof granted by the OWNER, then the CONTRACTOR does hereby agree, as a partial consideration for the awarding of this Contract, to pay to the OWNER the amount specified in the Contract, not as a penalty, but as liquidated damages for such Breach of Contract as hereinafter set forth for each and every calendar day that the CONTRACTOR shall be in default, after the time stipulated in the Contract for completing the Work.
- d. The said amount is fixed and agreed upon by and between the OWNER and the CONTRACTOR, and said amount is agreed to be the amount of damages the OWNER would sustain in such an event as the above-mentioned, and said amount shall be retained from time to time by the OWNER for current periodical payments.
- e. It is further agreed that time is of the essence in each and every portion of the Contract and Specifications; where in a definite and certain length of time is fixed for the performance of any act whatsoever; and where under the Contract an additional time is allowed for the completion of any Work, the new time limit fixed by such extension shall be by the CONTRACTOR and shall not be charged when the delay in completion of the

Work is due to:

1. Any preference, priority, or allocation order duly issued by the government, subsequent to the date of the Contract.
2. Unforeseeable causes beyond the control and without the fault or negligence of the CONTRACTOR, including, but not restricted to acts of God, or of the public enemy, acts of the OWNER, acts of another contractor, fires, floods, epidemics, strikes, and unusually severe weather.
3. Any delays of subcontractors or suppliers approved by the OWNER.

Provided further that the CONTRACTOR shall within ten (10) days from the beginning of the delay, unless the OWNER shall grant a further period of time prior to the date of final settlement of the Contract, notify the OWNER in writing of the causes of the delay. The OWNER shall ascertain the facts and extent of the delay, and notify the CONTRACTOR within a reasonable time of its decision in the matter.

ARTICLE 13: TERMINATION FOR DEFAULT; DAMAGES FOR DELAY; TIME
EXTENSIONS

- a. If the CONTRACTOR refuses or fails to prosecute the Work, or any separable part thereof, with such diligence as will insure its completion within the time specified in this Contract, or any extension thereof, or fails to complete said Work within such time, the OWNER may, by written notice to the CONTRACTOR, terminate his right to proceed with the Work or such part of the Work as to which there has been a delay. In such event, the OWNER may take over the Work and prosecute the same to completion, by Contract otherwise, and may take possession of and utilize in completing the Work such materials, appliances, and plant as may be on the site of the Work and necessary therefore. Whether or not the CONTRACTOR'S right to proceed with the Work is terminated, he and his sureties shall be liable for any damage to the OWNER resulting from his refusal or failure to complete the Work within the specified time.
- b. If fixed and agreed liquidated damages are provided in the Contract and if the OWNER so terminates the CONTRACTOR'S right to proceed, the resulting damage will consist of such liquidated damages until such reasonable time as may be required for final completion of the Work together with any increased costs occasioned the OWNER in completing the Work.
- c. If fixed and agreed liquidated damages are provided in the Contract and if the OWNER does not so terminate the CONTRACTOR'S right to proceed, the resulting damage will consist of such liquidated damages until the Work is completed or accepted.
- d. The CONTRACTOR'S right to proceed shall not be so terminated nor the

CONTRACTOR charged with resulting damage if:

1. The delay in the completion of the Work arises from causes other than normal weather beyond the control and without the fault or negligence of the CONTRACTOR, including but not restricted to, acts of God, acts of the public enemy, acts of the OWNER in either its sovereign or contractual capacity, acts of another contractor in the performance of a Contract with the OWNER, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather, or delays of subcontractors or suppliers arising from causes other than normal weather beyond the control and without the fault of negligence of both the CONTRACTOR and such subcontractors or suppliers; and
 2. The CONTRACTOR, within ten (10) days from the beginning of any such delay (unless the OWNER grants a further period of time before the date of final payment under the Contract), notifies the OWNER in writing of the causes of delay. The OWNER shall ascertain the facts and the extent of the delay and extend the time for completing the Work when, in his judgment, the findings of fact justify such an extension and his findings of fact shall be final and conclusive on the parties, subject only to appeal as provided in the "Remedies" clause of this Contract.
- e. If, after notice of termination of the CONTRACTOR'S right to proceed under the provisions of this clause, it is determined for any reason that the CONTRACTOR was not in default under the provisions of this clause, or that the delay was excusable under the provisions of this clause, the rights and obligations of the parties shall, if the Contract contains a clause providing for termination for convenience of the OWNER, be the same as if the notice of termination has been issued pursuant to such clause. If, in the foregoing circumstances, this Contract does not contain a clause providing for termination for convenience of the OWNER, the Contract shall be equitably adjusted accordingly; failure to agree to any such adjustment shall be subject to the "Remedies" clause of this Contract.
- f. The rights and remedies of the OWNER provided in this clause are in addition to any other rights and remedies provided by law or under this Contract.
- g. As used in paragraph (d) (1) of this clause, the term "Subcontractors or suppliers", means subcontractors or suppliers at any tier.

ARTICLE 14: CONTRACT SECURITY

The CONTRACTOR must furnish a Performance Bond and a Labor and Material Payment Bond, in the specific formats as attached herein, both for the full value of the bid price within fifteen (15) calendar days after the award date, in order to execute a Contract. This surety on such bonds shall be a duly authorized surety company satisfactory to the OWNER, and the cost of the same shall be paid by the CONTRACTOR. Prior to the starting of any Work, the bonds must be approved by the OWNER.

ARTICLE 15: ADDITIONAL OR SUBSTITUTE BOND

If at any time the OWNER, for justifiable cause, shall become dissatisfied with any Surety or Sureties holding payment bonds, the CONTRACTOR shall, within five (5) days after notice from the OWNER to do so, substitute an acceptable bond or bonds in such form and signed by such other Surety as may be satisfactory to the OWNER. The premiums of such bonds shall be paid by the CONTRACTOR. No further payments will be deemed due, nor will be made until the new Surety or Sureties shall have furnished such an acceptable bond to the OWNER.

ARTICLE 16: INDEMNITY

The CONTRACTOR shall at all times indemnify and save harmless the OWNER and the Engineer, their servants and agents, from any and all claims and from any suits, litigations, damages, losses or the like arising out of injuries sustained or alleged to have been sustained by any persons or property in connection with the Contract Work, caused in whole or in part by acts or omissions of the CONTRACTOR, his subcontractors, materialmen, or anyone directly or indirectly connected with the Contract Work.

ARTICLE 17: SUPERINTENDENCE BY THE CONTRACTOR

The CONTRACTOR shall give the Work the constant attention necessary to facilitate the progress thereof and shall cooperate with the OWNER in every possible way.

At the site of the Work, the CONTRACTOR shall, at all times, employ a Construction Superintendent who shall have full authority to act for the CONTRACTOR. It is understood that the employment of such representative shall be acceptable to the OWNER and shall be such a person as can be continued in the capacity for the duration of the Contract, unless he ceases to be on the CONTRACTOR'S payroll.

The CONTRACTOR shall at all times enforce strict discipline and good order among his employees and shall seek to avoid employing on the work any unfit person or anyone not skilled in the work assigned to him. The CONTRACTOR shall employ experienced foremen, craftsmen, and other workmen competent in the Work in which they are to be engaged.

ARTICLE 18: CONTRACTOR TO LAY OUT HIS OWN WORK

The OWNER will establish such general reference points as in his judgment will enable the CONTRACTOR to proceed with the Work. The CONTRACTOR, at his own expense, shall provide all materials and equipment and such qualified helpers as may be required for setting the general reference points, lines, and grades, and shall protect and preserve all stakes, benches, and other markers used to identify the reference points. The CONTRACTOR shall lay out all the Contract Work from the above and shall be responsible for the accuracy of all lines, grades and measurements.

If the CONTRACTOR, in the course of the work, finds any discrepancy between the plans and the physical conditions of the locality, or any errors or omissions in plans or in the layout as given by survey points and instructions, he shall immediately inform the Engineer, in writing, and the Engineer shall promptly verify the same. Any work done after such discovery, until authorized, will be done at the CONTRACTOR's risk.

ARTICLE 19: PERMITS AND REGULATIONS

The CONTRACTOR shall comply with all laws, regulations, ordinances, orders and rules relating to the performance of the Work, the protection of the adjacent property, and the maintenance of passageways, guard fences, and other protective facilities.

It is the responsibility of the CONTRACTOR to secure, at his expense, all necessary permits and licenses for the required work.

ARTICLE 20: CONSTRUCTION SCHEDULE AND PERIODIC ESTIMATES

Within five (5) days after the date of "Notice To Proceed", the CONTRACTOR shall deliver to the OWNER an estimated construction progress schedule in a form satisfactory to the OWNER, showing the proposed dates of commencement and completion of each of the various subdivisions of Work required under the Contract Documents and the anticipated amount of each monthly payment that will become due the CONTRACTOR in accordance with the progress schedule. The CONTRACTOR shall also furnish: 1) a detailed estimate, giving a complete breakdown of the Contract price; and 2) periodic itemized estimates of the Work done for the purpose of making partial payments thereon. This estimate shall be in the form of a monthly (or other agreed upon period) cash flow projection. It is understood that this report will not be binding on either the CONTRACTOR or the OWNER relative to actual requisition amounts submitted and approved, but will be used for planning purposes only.

The CONTRACTOR shall perform the Work of this Contract to conform with the schedule as approved by the OWNER, except that the OWNER reserves the right to amend and alter the construction schedule at any time, if in a manner which is deemed to be in the best interest of the OWNER to do so. The CONTRACTOR shall arrange his Work to conform with this schedule as it may be revised from time to time by the OWNER, at no additional expense to the OWNER. The CONTRACTOR shall notify the OWNER immediately of any circumstances which may affect the performance of the Work in accordance with the current construction schedule.

ARTICLE 21: SEQUENCE OF THE WORK

The CONTRACTOR shall be required to prosecute his Work in accordance with a schedule prepared by him in advance in accordance with additional requirements specified herein and approved by the OWNER. This scheduling shall state the methods and shall forecast the times of doing each portion of the Work. Before beginning any portion of the Work, the CONTRACTOR shall give the OWNER advance notice and ample time for making necessary preparations.

ARTICLE 22: AUDIT; ACCESS TO RECORDS

The CONTRACTOR shall maintain books, records, documents and other evidence directly pertinent to performance of Work under this Contract in accordance with generally accepted accounting principles and practices. The CONTRACTOR shall also maintain the financial information and data used by the CONTRACTOR in the preparation or support of the cost submission or for any negotiated Contract or Change Order and a copy of the cost summary submitted to the OWNER. The CONTRACTOR will provide proper facilities for such access and inspection.

Audits conducted pursuant to this Provision shall be in accordance with generally accepted auditing standards and established procedures and guidelines of the reviewing or audit agency(ies).

The CONTRACTOR agrees to the disclosure of all information and reports resulting from the access to records pursuant to paragraphs above, to any of the agencies referred to above, provided that the CONTRACTOR is afforded the opportunity for an audit conference, and an opportunity to comment and submit any supporting documentation on the pertinent portions of the draft audit report that the final audit report will include written comments of reasonable length, if any, of the CONTRACTOR.

Records under paragraphs above, shall be maintained and made available during performance on Work under this Contract and until three (3) years from the date of final payment for the Project. In addition, those records which related to any "Dispute", appeal agreement, or litigation, or the settlement of claims arising out of such performance, or costs of items to which an audit exception has been taken, shall be maintained and made available until three (3) years after the date of resolution of such appeal, litigation, claim or exception.

ARTICLE 23: REPORTS, RECORDS, AND DATA

The CONTRACTOR and each of his subcontractors, shall submit to the OWNER such schedules of quantities and costs, progress schedules, certified payrolls, reports, estimates, records, and other data as the OWNER may request concerning the Work performed or to be performed under this Contract.

ARTICLE 24: DIFFERING SITE CONDITIONS

- a. The CONTRACTOR shall promptly and before such conditions are disturbed, notify the OWNER in writing of: (1) subsurface of latent physical conditions at the site differing

materially from those indicated in this Contract, or (2) unknown physical conditions at the site, of any unusual nature, differing materially from those ordinarily encountered and generally recognized as inhering in Work of the character provided for in this Contract. The OWNER shall promptly investigate the conditions and if he finds that such conditions do materially so differ and cause an increase or decrease in the CONTRACTOR'S cost of, or the time required for, performance of any of the Work under this Contract, whether or not changed as a result of such conditions, an equitable adjustment shall be made and the Contract modified in writing accordingly.

- b. No claim of the CONTRACTOR under this clause shall be allowed unless the CONTRACTOR has given the notice required in (a) above; provided, however, the time prescribed therefore may be extended by the OWNER.
- c. No claim by the CONTRACTOR for an equitable adjustment hereunder shall be allowed if asserted after final payment under this Contract.

ARTICLE 25: GENERAL GUARANTEE

Neither the final certificate of payment nor any provision in the Contract Documents nor any partial or entire occupancy of the premises by the OWNER shall constitute an acceptance of Work not done in accordance with the Contract Documents or relieve the CONTRACTOR of liability in respect to any express warranties or responsibility for faulty workmanship or materials. The CONTRACTOR shall remedy any defects in the Work and pay for any damage to other Work resulting therefrom, which shall appear within a period of one (1) year from the date of final acceptance of the Work, unless a longer period is specified by the OWNER and/or by virtue of any specific product guarantees and/or warranties. The OWNER will give final notice of observed defects with reasonable promptness.

The CONTRACTOR shall furnish a bond or bonds to guarantee satisfactory operation of any item of equipment for one year or for any other time period consistent with any specific product guarantees and/or warranties as referenced within the Technical Specifications, from date of final acceptance, if required by the Engineer.

ARTICLE 26: COMPLETENESS OF THE WORK

In addition to the specified or described portions of the Work, all other Work and all other materials, equipment, and labor of whatever description, necessary or required to complete the Work, or for carrying out the full intent of the drawings and Specifications, such Work, labor, materials, and equipment shall be provided by the CONTRACTOR, and payment therefore shall be considered as having been included in the price stipulated for the appropriate item of Work listed in the bid.

ARTICLE 27: CARE OF THE WORK

The CONTRACTOR shall be responsible for all damages to persons or property that occur as a result of his fault or negligence in connection with the prosecution of the Work and shall be

responsible for the proper care and protection of all materials delivered and Work performed until completion and final acceptance by the OWNER, whether or not the same has been covered by partial payments made by the OWNER.

ARTICLE 28: PROTECTION OF CONSTRUCTION FEATURES

The CONTRACTOR shall take adequate precautions to protect existing sidewalks, curbs, pavements, utilities, adjoining property and such incidentals, and to avoid damage thereto. The CONTRACTOR shall completely repair any damage at no additional expense to the OWNER.

ARTICLE 29: SAFETY AND HEALTH REGULATIONS

These Contract Documents, and the joint and several phases of construction hereby contemplated, are to be governed, at all times, by the applicable provisions of the Federal law(s), including but not limited to the following:

1. Williams-Steiger Occupational Safety and Health Act, 1970, Public Law 92-596;
2. Part 1910 of the Occupational Safety and Health Standards, Chapter XVII of Title 29, Code of Federal Regulations;
3. This Project is subject to all of the Safety and Health Regulations (CFR 29, Part 1926 and all subsequent amendments) as promulgated by the U.S. Department of Labor on June 24, 1974. CONTRACTORS are urged to become familiar with the requirements of these regulations.

In the event of any inconsistencies between the above laws and regulations and the provisions of these Contract Documents, the laws and regulations shall prevail.

ARTICLE 30: PROTECTION OF WORK AND PROPERTY - EMERGENCY

- a. The CONTRACTOR shall provide and maintain all necessary watchmen, barricades, lights and warning signs and take all necessary precautions for the protection of the public.
- b. The CONTRACTOR shall at all times safely guard the OWNER'S property as well as adjacent public and private property from injury or loss in connection with this Contract. He shall at all times safely guard and protect his own Work, materials incorporated into the Work or stockpiled at the site, and that of adjacent property, from damage. The CONTRACTOR shall replace or make good any such damage, loss or injury.
- c. In case of an emergency which threatens loss or injury of property, and/or safety of life,

the CONTRACTOR will be allowed to act, without previous instructions from the OWNER, in a diligent manner. He shall notify the OWNER immediately thereafter. Any claim for compensation by the CONTRACTOR due to such extra Work shall be promptly submitted to the OWNER for review.

- d. Where the CONTRACTOR has not taken action but has notified the OWNER of an emergency threatening injury to persons or damage to the Work or to any adjoining property, he shall act as instructed or authorized by the OWNER.
- e. The amount of reimbursement claimed by the CONTRACTOR on account of any emergency action shall be determined in the manner provided elsewhere in the Contract Documents.
- f. The CONTRACTOR shall remove all snow and ice as may be required for the proper protection and prosecution of the work.
- g. Bracing, shoring, sheathing, caissons and/or any other underground facilities shall be provided as required for safety and proper execution of the work, and shall be removed when no longer necessary.

ARTICLE 31: FIRE PREVENTION AND PROTECTION

All State and municipal rules and regulations with respect to fire prevention, fire-resistant construction, and fire protection shall be strictly adhered to on all Work and facilities necessary therefor shall be provided and maintained by the CONTRACTOR in an approved manner.

All fire protection equipment such as water tanks, hoses, pumps, extinguishers and other materials and apparatus, shall be provided for the protection of the Contract Work, temporary Work, and adjacent property. Trained personnel experienced in the operation of all fire protection equipment and apparatus shall be available on the site whenever Work is in progress, and at such other times as may be necessary for the safety of the public and the Work.

ARTICLE 32: PROTECTION OF LIVES AND HEALTH

- a. In order to protect the lives and health of his employees under this Contract, the CONTRACTOR shall meet all pertinent provisions of the "Manual of Accident Prevention in Construction," issued by the Associated General Contractors of America, Inc., and shall maintain an accurate record of all cases of death, occupational diseases, and injuries requiring medical attention or causing loss of time of employment on the Contract Work.
- b. The CONTRACTOR alone shall be responsible for the safety, efficiency, and adequacy of his plant, appliances, and methods, and for any damage which may result from their failure or their improper construction, maintenance or operation.

ARTICLE 33: PROTECTION AGAINST HIGH WATER AND STORM

The CONTRACTOR shall take all precautions to prevent damage to Work or equipment by high water or by storms. The OWNER may prohibit the carrying out of Work at any time when in his judgment high waters or storm conditions are unfavorable or unsuitable, or at any time regardless of the weather when proper precautions are not being taken to safeguard previously constructed Work or Work in progress.

In case of damage caused by the failure of the CONTRACTOR to take adequate precautions, the CONTRACTOR shall repair or replace equipment damaged and shall make such repairs or rebuild such parts of the damaged Work as the OWNER may require, at no additional cost to the OWNER.

ARTICLE 34: FIRST AID TO INJURED

The CONTRACTOR shall keep in his office, ready for immediate use, all articles necessary for giving first aid to injured employees. He shall also provide arrangements for the immediate removal and hospital treatment of any employees injured on the Work site, who require same.

ARTICLE 35: HURRICANE PROTECTION

Should hurricane warnings be issued, the CONTRACTOR shall take every precaution to minimize danger to persons, to the Work, and to adjacent property. These precautions shall include closing all openings, removing all loose materials, tools and equipment from exposed locations, and removing all scaffolding and other temporary Work.

ARTICLE 36: USE OF PREMISES AND REMOVAL OF DEBRIS

The CONTRACTOR undertakes, at his own expense:

- a. To take every precaution against injuries to persons or damage to property.
- b. To store his apparatus, materials, equipment and supplies in such orderly fashion at the site of the Work, as will not unduly interfere with the progress of his Work or any others.
- c. To place upon the Work or any part thereof, only such loads as are consistent with the safety of that portion of the Work.
- d. To clean frequently all refuse, scrap, and debris caused by his operations, so that the Work site is maintained in a neat, workmanlike appearance.
- e. To effect all cutting, fitting, or patching of his Work required to make the same conform to the drawings and Specifications, and except with the consent of the OWNER, not to cut or otherwise alter the Work of any other contractor.

- f. Before final payment, to remove all surplus materials, false Work, temporary structures, including foundations thereof, plants of any description, and debris of any nature resulting from his operations, so that the site is left in a neat, orderly, and workmanlike condition.

ARTICLE 37: CORRECTION OF WORK

All Work, materials, all processes of manufacture, and all methods of construction shall be at all times and places subject to the inspection of the OWNER, who shall be the final judge of the quality and suitability of the Work performed under this Contract. Should any of the Work performed fail to meet with his approval, it shall be forthwith reconstructed, made good, replaced, and/or corrected as the case may be, by the CONTRACTOR, at his own expense. Rejected material shall be immediately removed from the site. If, in the opinion of the OWNER, it is undesirable to replace, reconstruct, or correct any of the Work not performed in accordance with the Contract Documents, the compensation to be paid to the CONTRACTOR shall be reduced by such amounts as in the judgment of the OWNER shall be equitable.

ARTICLE 38: FAILURE TO REPAIR

Any emergency rising from the interruption of electric, gas, water, storm drainage, transportation routes (roads), or sewer service due to the activities of the CONTRACTOR shall be repaired by the CONTRACTOR as quickly as is possible.

If and when, in the opinion of the OWNER, the CONTRACTOR is not initiating repair Work as expeditiously as possible upon notification to do so, the OWNER, may, at his own option, make the necessary repairs using his own forces or those of others. The cost of such repairs shall be subtracted from the payments due to the CONTRACTOR.

ARTICLE 39: WEATHER CONDITIONS

In the event of temporary suspension of the Work, or during inclement weather, or whenever the OWNER shall direct, the Contractor shall, and shall cause his subcontractors to, protect carefully his and their Work and materials against damage or injury from the weather. If, in the opinion of the OWNER, any Work or materials are damaged or injured by reason of failure to protect them on the part of the CONTRACTOR, or any of his subcontractors, or otherwise damaged or injured by the CONTRACTOR'S negligence, or are found to be defective, such materials or Work shall be removed and replaced at the expense of the CONTRACTOR. The OWNER may determine when conditions are unfavorable for Work and may order the Work, or any portion thereof, suspended whenever, in his opinion, the conditions are not such as will insure first-class Work.

ARTICLE 40: BUS LINE INTERFERENCE

Whenever it may be necessary to interfere with any bus lines, notice shall be given to the corporation owning the same, and reasonable time will be given to said corporation to arrange

the schedule for operation of the bus line, as it may be necessary.

ARTICLE 41: AFTER HOURS WORK

Night work, or Work on Saturdays, Sundays, or legal holidays requiring the presence of an engineer or inspector, will not be permitted except in case of emergency, and only upon the approval of the OWNER. Should it be necessary for the OWNER to operate an organization for continuous night work or for emergency night work, the lighting, safety and other facilities which are deemed necessary shall be provided by the CONTRACTOR. Compensation for this Work shall be considered as having been included in the prices stipulated for the appropriate items of Work as listed in the bid, and no extra compensation will be paid by the OWNER.

ARTICLE 42: LIGHTS, BARRIERS, WATCHMEN, AND INDEMNITY

The CONTRACTOR shall erect and maintain such barriers, lighting, warning lights, danger warning signals, and signs that will prevent accidents during the construction Work and protect the Work and insure the safety of personnel and the public at all times and places; the CONTRACTOR shall indemnify and protect the OWNER and Engineer in every respect from injury or damage whatsoever caused by any act of neglect by the CONTRACTOR or his subcontractors, or their servants or agents.

In addition to the above, when and as necessary, or when required by the OWNER, the CONTRACTOR shall post signs and employ watchmen or flagmen, for the direction of traffic at the site and for excluding at all times unauthorized persons from the Work site, for which the CONTRACTOR shall be paid no additional compensation.

The CONTRACTOR shall be responsible for excluding at all times from the land within the easement areas, all persons not directly connected with the Work.

All Work occurring on State of Rhode Island highways shall be clearly identified, protected, and the public's safety ensured by erection of signs, barriers, and all other provisions as outlined in the Manual on Uniform Traffic Control Devices for Streets and Highways; issued by the U.S. Department of Transportation, Federal Highway Administration, 1978; Part VI, "Traffic Controls for Streets and Highway Construction and Maintenance Operations", as amended.

ARTICLE 43: LOADING

No part of the structures involved in this Contract shall be loaded during construction with a load greater than it is calculated to carry with safety. Should any accidents or damage occur through any violation of this requirement, the CONTRACTOR will be held responsible under his Contract and bond.

ARTICLE 44: DISPOSAL OF MATERIALS

The materials used in the construction of the Work, shall be deposited in such manner so they will not endanger persons or the Work, and so that free access may be had at any time to all

hydrants, valves, manholes, etc. in the vicinity of the Work. The materials shall be kept trimmed up so that as little inconvenience as possible to the public or adjoining tenants is caused.

ARTICLE 45: FINISHING AND CLEANING UP

In completing his operations, the CONTRACTOR shall immediately remove all surplus material, tools, and other property belonging to him, leaving the entire street or surroundings free and clean and in good order, at no additional expense to the OWNER. The CONTRACTOR shall exercise special care in keeping the rights-of-way and private lands upon which Work is performed free and clean of all debris, and shall remove all tools and other property when they are not in use.

In case the CONTRACTOR fails or neglects to promptly remove all surplus materials, tools, and incidentals after backfilling, leaving the street or surrounding area clean and free of debris, and do the required repaving when ordered, the OWNER may, after 24 hours' notice, cause the Work to be done and the cost thereof deducted from any payment due to the CONTRACTOR.

ARTICLE 46: SPIRITUOUS LIQUORS

The CONTRACTOR shall neither permit or suffer the introduction of spirituous liquors upon the Work embraced in this Contract, nor the use of the same.

ARTICLE 47: DUST CONTROL

The CONTRACTOR shall exercise every precaution and means to prevent and control dust arising out of all construction operations from becoming a nuisance to abutting property OWNERS or surrounding neighborhoods. Pavements adjoining the pipe trench shall be kept broomed off and washed clean of excess materials wherever and whenever directed. Repeated daily dust control treatment shall be provided to satisfactorily prevent the spread of dust until permanent pavement repairs are made and until earth stockpiles have been removed, and all construction operations that might cause dust have been completed. No extra payment will be made for these dust control measures, compensation shall be considered to be included in the prices stipulated for the appropriate items as listed in the bid.

If so directed by the OWNER, the CONTRACTOR shall furnish and apply calcium chloride for supplemental control of dust.

Calcium chloride shall conform to the requirements of AASHO M.144 (ASTM D-98) except that the pellet form and the flake form shall be equally acceptable.

Calcium chloride shall be applied only at the locations, at such times and in the amount as may be directed by the OWNER. It shall be spread in such manner and by such devices that uniform distribution is attained over the entire area on which it is ordered placed.

There will be no separate payment for this Work. The cost of the Work shall be included in the

price bid for the various other items of Work.

PART III

The rights and obligations of the OWNER under this Contract shall include, but not be limited to the following:

ARTICLE 48: THE OWNER'S AUTHORITY

The OWNER shall give all orders and directions contemplated under this Contract and Specifications relative to the execution of the Work. The OWNER shall determine the amount, quality, acceptability, and fitness of the several kinds of Work and materials which are to be paid for under this Contract and shall decide all questions which may arise in relation to said Work and the construction thereof. The OWNER'S estimates and decisions shall be final and conclusive, except as herein otherwise expressly provided. In case any question shall arise between the parties hereto relative to said Contract or Specifications, the determination or decision of the OWNER shall be a condition precedent to the right of the CONTRACTOR to receive any money or payment for Work under this Contract affected by such questions.

The OWNER shall decide the meaning and intent of any portion of the Specifications and of any plans or drawings where the same may be found to be obscure or be in dispute. Any differences or conflicts in regard to their Work which may arise between the CONTRACTOR and other contractors performing Work for the OWNER, shall be adjusted and determined by the OWNER.

ARTICLE 49: ALL WORK SUBJECT TO CONTROL BY THE OWNER

- a. In the performance of the Work, the CONTRACTOR shall abide by all orders, directions, and requirements of the OWNER, and shall perform all Work to the satisfaction of the OWNER, and at such times and places, by such methods, and in such manner and sequence as he may require. The OWNER shall determine the amounts, quality, acceptability, and fitness of all parts of the Work. The OWNER shall interpret the drawings, Specifications, contract documents, all other documents, and the extra Work orders. The OWNER shall also decide all other questions in connection with the Work. The CONTRACTOR shall employ no plant, equipment, materials, methods or men to which the OWNER objects and shall remove no plant, materials, or equipment, or other facilities from the Work site without the OWNER'S permission. Upon request, the OWNER will confirm in writing any oral order, direction, requirement, or determination.
- b. Inspectors shall be authorized to inspect all Work done and materials furnished. Such inspection may extend to all parts of the Work and to the preparation or manufacture of the materials to be used. The presence or absence of an inspector shall not relieve the CONTRACTOR from any requirements of the Contract. In case of any dispute arising

between the CONTRACTOR and the inspector as to materials furnished or the manner in which the Work is being executed, the inspector shall have the authority to reject material, and suspend Work until the question has been decided by the OWNER. The inspector shall not be authorized to revoke, alter, enlarge, relax, or release any requirement of these Specifications, nor to approve or accept any portion of the Work, nor to issue instructions contrary to the drawings and Specifications. The inspector shall in no case act as foreman or perform other duties for the CONTRACTOR, or interfere with the management of the Work by the latter. Any advice which the inspector may give the CONTRACTOR shall in no way be construed as binding the OWNER or the Engineers in any way, nor releasing the CONTRACTOR from the fulfillment of the terms of the Contract.

ARTICLE 50: THE OWNER'S CONTROL NOT LIMITED

The enumeration in this Contract of particular instances in which the opinion, judgment, discretion, or determination of the OWNER shall control or in which Work shall be performed to his satisfaction or subject to his approval or inspection, shall not imply that only matters similar to those enumerated shall be so governed and performed, but without exception all the Work shall be so governed and performed.

ARTICLE 51: RIGHT OF THE OWNER TO TERMINATE THE CONTRACT

In the event that any of the provisions of this Contract are violated by the CONTRACTOR, or any of his subcontractors, the OWNER may serve written notice upon the CONTRACTOR and the Surety of his intention to terminate the Contract, such notice to contain the reasons for such intention to terminate the Contract. If within ten (10) days such violation or delay shall not cease, and satisfactory arrangement or correction made, the Contract shall, at the expiration of the ten (10) days, cease and immediately serve notice thereof upon the Surety and the CONTRACTOR, and the Surety shall have the power to take over and perform the Contract; provided, however, that if the Surety does not commence performing thereof within ten (10) days from the date of mailing to such Surety a Notice Of Termination, the OWNER may take over the Work and prosecute the same to completion by Contract or force account at the expense of the CONTRACTOR, and the CONTRACTOR and his Surety shall be liable to the OWNER for any excess cost occasioned the OWNER thereby.

If the CONTRACTOR should be adjudged bankrupt, or if he should make a general assignment for the benefit of his creditors, or if a receiver should be appointed on account of his insolvency, or if he should persistently or repeatedly refuse or should fail, except in cases for which extensions of time are provided, to supply enough properly skilled workmen or proper materials, or if he should fail to make prompt payments to Subcontractors or for material or labor, or persistently disregard laws, or ordinances or the instructions of the Engineer, or otherwise be guilty of a substantial violation of any provision of the Contract, then the OWNER, upon the written notice of the Engineer that sufficient cause exists to justify such action may, without prejudice to any other right to remedy and after giving the CONTRACTOR ten (10) days written notice, terminate the employment of the CONTRACTOR and take possession of the premises

and of all materials, tools, and appliances thereon and finish the work by whatever method he may deem expedient.

In such case, the CONTRACTOR shall not be entitled to receive any further payment until the work is finished. If the unpaid balance of the contract price shall exceed the expense of finishing the work, including compensation for additional managerial and administrative services, such excess shall be paid to the CONTRACTOR. If such expense shall exceed such unpaid balance, the CONTRACTOR shall pay the difference to the OWNER. The expense incurred by the OWNER herein provided, and the damage incurred through the CONTRACTOR's default, shall be determined by the Engineer.

Where the Contract has been terminated by the OWNER, said termination shall not affect or terminate any of the rights of the OWNER as against the CONTRACTOR of his surety then existing or which may thereafter accrue because of such default.

In the case of termination of this Contract before completion, for any cause whatever, the CONTRACTOR, if notified to do so by the OWNER, shall promptly remove any part or all of his equipment or supplies from the property of the OWNER, failing which the OWNER shall have the right to remove such equipment and supplies at the expense of the CONTRACTOR.

ARTICLE 52: TERMINATION FOR CONVENIENCE

- a. The performance of Work under this Contract may be terminated by the OWNER in accordance with this clause in whole, or from time to time in part, whenever the OWNER shall determine that such termination shall be effected by delivery to the CONTRACTOR of a Notice Of Termination specifying the extent to which performance of Work under the Contract is terminated, and the date upon which such termination becomes effective.
- b. After receipt of a Notice Of Termination, and except as otherwise directed by the OWNER, the CONTRACTOR shall:
 1. Stop Work under the Contract on the date and to the extent specified in the Notice Of Termination;
 2. Place no further orders or subcontracts for materials, services, or facilities except as may be necessary for completion of such portion of the Work under the Contract as is not terminated;
 3. Terminate all orders and subcontracts to the extent that they relate to the performance of Work terminated by the Notice Of Termination;
 4. Assign to the OWNER in the manner, at the times, and to the extent directed by the OWNER, all of the rights, title and interest of the CONTRACTOR under the orders and subcontracts so terminated. In which case, the OWNER shall have the right, in its discretion, to settle, or pay any or all claims arising out of the

termination of such orders and subcontracts;

5. Settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, with the approval or ratification of the OWNER to the extent he may require, which approval or ratification shall be final for all the purposes of this clause;
 6. Transfer title to the OWNER, and deliver in the manner, at the times, and to the extent, if any, directed by the OWNER, (i) the fabricated or unfabricated parts, Work in progress, completed Work, supplies, and other material produced as a part of, or acquired in connection with the performance of the Work terminated by the Notice Of Termination, and (ii) the completed or partially completed plans, drawings, information, and other property which, if the Contract had been completed, would have been required to be furnished to the OWNER;
 7. Use his best efforts to sell, in the manner, at the times, to the extent, and at the price or prices directed or authorized by the OWNER, any property of the types referred to in (6) above; provided however, that the CONTRACTOR (i) shall not be required to extend credit to any purchaser, and (ii) may acquire any such property under the conditions prescribed and at a price or prices approved by the OWNER: and, provided further, that the proceeds of any such transfer or disposition shall be applied in reduction of any payments to be made by the OWNER or the CONTRACTOR under this Contract, or shall otherwise be credited to the price or cost of the Work covered by this Contract or paid in other such manner as the OWNER may direct;
 8. Complete performance of such part of the Work as shall not have been terminated by the Notice Of Termination; and,
 9. Take such action as may be necessary, or as the OWNER may direct, for the protection and preservation of the property related to this Contract which is in the possession of the CONTRACTOR and which the OWNER has or may acquire an interest.
- c. After receipt of a Notice Of Termination, the CONTRACTOR shall submit to the OWNER his termination claim, in the form and with the certification prescribed by the OWNER. Such claim shall be submitted promptly but in no event later than one (1) year from the effective date of termination, unless one or more extensions in writing are granted by the OWNER upon request of the CONTRACTOR made in writing within such one-year period or authorized extension thereof. However, if the OWNER determines that the facts justify such action, he may receive and act upon any such termination claim at any time after such one-year period or extension thereof. Upon failure of the CONTRACTOR to submit his termination claim within the time allowed, the OWNER may determine, on the basis of information available to him, the amount, if any, due to the CONTRACTOR by reason of the termination and shall thereupon pay to

the CONTRACTOR the amount so determined.

- d. Subject to the provisions of paragraph (c), the CONTRACTOR and the OWNER may agree upon the whole or any part of the amount or amounts to be paid to the CONTRACTOR by reason of the total or partial termination of Work pursuant to this clause which amount or amounts may include a reasonable allowance for profit on Work done: provided, that such agreed amount or amounts, exclusive of settlement costs, shall not exceed the total Contract Price as reduced by the amount of payments otherwise made and as further reduced by the Contract Price or Work not terminated. The Contract shall be amended accordingly, and the Contract shall be paid the agreed amount. Nothing in paragraph (e) of this clause, prescribing the amount to be paid to the CONTRACTOR in the event of failure of the CONTRACTOR and the OWNER to agree upon the whole amount to be paid to the CONTRACTOR by reason of the termination of Work pursuant to this paragraph (d).
- e. In the event of failure of the CONTRACTOR and the OWNER to agree as provided in paragraph (d) upon the whole amount to be paid to the Contract by reason of the termination of Work pursuant to this clause, the OWNER shall determine, on the basis of information available to him, the amount, if any, due to the CONTRACTOR; the amounts determined as follows:
 1. With respect to all Contract Work performed prior to the effective date of the Notice of Termination, the total (without duplication of any items) of:
 - i. The cost of such Work;
 - ii. The cost of settling and paying claims arising out of the termination of Work under subcontracts or orders provided in paragraph (b)(5) above, exclusive of the amounts paid or payable on account of supplies or materials delivered, or services furnished by the subcontractor prior to the effective date of the Notice Of Termination of Work under this Contract, which amounts shall be included in the cost on account of which payment is made under (i) above, and;
 - iii. A sum, as profit on (i) above, determined by the OWNER to be fair and reasonable: provided; however, that if it appears that the CONTRACTOR would have sustained loss on the entire Contract had it been completed, no profit shall be included or allowed under this subdivision (iii) and an appropriate adjustment shall be made reducing the amount of the settlement to reflect the indicated rate of loss; and,
 2. The reasonable cost of the preservation and protection of property incurred pursuant to paragraph (b)(9); and any other reasonable cost incidental to termination of Work under this Contract, including expense incidental to the

determination of the amount due to the CONTRACTOR as the result of the termination of Work under this Contract.

The total sum to be paid to the CONTRACTOR under (1) above shall not exceed the total Contract Price as reduced by the amount of payments otherwise made, and as further reduced by the Contract Price of Work not terminated. Except for normal spoilage, and except to the extent that the OWNER shall have otherwise expressly assumed the risk of loss, there shall be excluded from the amounts payable to the CONTRACTOR under (1) above, the fair value, as determined by the OWNER, of property which is destroyed, lost, stolen, or damaged so as to become undeliverable to the OWNER, or to a buyer pursuant to paragraph (b)(7).

- f. The CONTRACTOR shall have the right to dispute under the clause of this Contract entitled "Remedies" from any determination made by the OWNER under paragraph (c) or (e) above, except that, if the CONTRACTOR has failed to submit his claim within the time provided in paragraph (c) above and has failed to request extension of such item, he shall have no such right of appeal. In any case, where the OWNER has made a determination of the amount due under paragraph (c) or (e) above, the OWNER shall pay to the CONTRACTOR the following: (1) if there is no right of appeal hereunder, or if no timely appeal has been taken, the amount so determined by the OWNER, or (2) if a "Remedies" proceeding is initiated, the amount finally determined in such "Remedies" proceeding.
- g. In arriving at the amount due the CONTRACTOR under this clause, there shall be deducted (1) all unliquidated advance or other payments on account theretofore made to the CONTRACTOR, applicable to the terminated portion of this contract, (2) any claim which the OWNER may have against the CONTRACTOR in connection with this Contract, and (3) the agreed price for, or the proceeds of sale of any materials, supplies, or other things kept by the CONTRACTOR or sold, pursuant to the provisions of this clause, and not otherwise recovered by or credited by the OWNER.
- h. If the termination hereunder be partial, prior to the settlement of the terminated portion of this Contract, the CONTRACTOR may file with the OWNER a request in writing for an equitable adjustment of the price or prices specified in the Contract relating to the continued portion of the Contract (the portion not terminated by the Notice Of Termination) and such equitable adjustment as may be agreed upon shall be made in such price or prices; however, nothing contained herein shall limit the right of the OWNER and amounts to be paid to the CONTRACTOR for the completion of the continued portion of the Contract, when said Contract does not contain an established contract price for such continued portion.

ARTICLE 53: RIGHTS OF ACCESS

Nothing herein contained or shown on the drawings shall be construed as giving the CONTRACTOR exclusive occupancy of the Work area. The OWNER or any other contractors

employed by him, the various utility companies, contractors, or subcontractors employed by State or Federal agencies, or any other agencies involved in the general Project or upon public rights-of-way, may enter upon or cross the area of Work or occupy portions of the area as is directed or necessary. When the territory of one contract is the convenient means of access to the other, the CONTRACTOR shall arrange his Work in such a manner as to permit such access to the other and prevent unnecessary delay to the Work as a whole.

ARTICLE 54: RIGHTS-OF-WAY AND SUSPENSION OF WORK

Land and rights-of-way for the purpose of this Contract shall be furnished by the OWNER to the extent shown on the drawings; the OWNER will use due diligence in acquiring said lands and rights-of-way as speedily as possible. If, however, lands or rights-of-way cannot be obtained before Work on the Project begins, the CONTRACTOR shall begin his Work upon such land or rights-of-way as have been previously acquired by the OWNER, and no claims for damages whatsoever will be allowed by reason of the delay in obtaining the remaining land and rights-of-way. Should the OWNER be prevented or enjoined from proceeding with the Work, or from authorizing its prosecution, either before or after the commencement by reason of litigation, or by reason or its inability to procure the land or rights-of-way for the said Work, the CONTRACTOR shall not be entitled to make or assert a claim for damages by reason of the said delay, or to withdraw from the Contract except by consent of the OWNER. Time for completion of Work will be extended to such time as the OWNER determines will compensate for the time lost by such delay, such determination to be set forth in writing.

ARTICLE 55: CONFORMANCE WITH DIRECTIONS

The OWNER may make alterations in the line, grade, plan, form, dimension, or materials of the Work, or any part thereof, either before or after the commencement of construction. Should such alterations diminish the quantity included in any item or Work to be done and paid for at a unit price, the CONTRACTOR shall have no claim for damages or for anticipated profits on the Work that thus may be dispensed with. If they increase the quantity included in any such item, such increase shall be paid for at the stipulated prices.

ARTICLE 56: INTERPRETATION OF THE DRAWINGS AND SPECIFICATIONS

Except for the CONTRACTOR'S executed set, all drawings and Specifications are the property of the OWNER. The OWNER will furnish the CONTRACTOR, without charge, three (3) sets of the drawings and Specifications. Additional sets will be furnished upon request, at actual cost of reproduction. Such drawings and Specifications are not to be used on other Work and those sets in usable condition shall be returned to the OWNER upon request at the completion of cessation of the Work or termination of the Contract.

The CONTRACTOR shall keep one (1) copy of the drawings and Specifications at the Work site at all times and shall give the OWNER and their representatives access thereto. Anything on the drawings and not mentioned in the Specifications, or anything in the Specifications that is not shown on the drawings shall have the same force and effect as if mentioned in both. In case of conflict or inconsistency between the drawings and the Specifications, the Specifications shall

take precedence. Any discrepancy in the figures and the drawings shall be immediately submitted to the OWNER for decision and the decision of the OWNER shall be final. In case of differences between small and large scale drawings, the large scale drawings shall take precedence.

ARTICLE 57: SUSPENSION OF WORK

- a. The OWNER may order the CONTRACTOR in writing to suspend, delay, or interrupt all or any part of the Work for such period of time as he may determine to be appropriate for the convenience of the OWNER.
- b. If the performance of all or any part of the Work is, for an unreasonable period of time, suspended, delayed, or interrupted by an act of the OWNER in administration of this Contract, or by his failure to act within the time specified in this Contract (or if no time is specified, within a reasonable time), an adjustment shall be made for any increase in the cost of performance of this Contract (excluding profit) necessarily caused by such unreasonable suspension, delay, or interruption and the Contract modified in writing accordingly.

However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent (1) that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the CONTRACTOR or (2) for which an equitable adjustment is provided for or excluded under any other provision of this Contract.

- c. No claim under this clause shall be allowed (1) for any costs incurred more than twenty (20) days before the CONTRACTOR shall have notified the OWNER in writing of the act or failure to act involved (but this requirement shall not apply as to a claim resulting from a suspension order), and (2) unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of such suspension, delay, or interruption, but not later than the date of final payment under the Contract.

ARTICLE 58: INSPECTION

The authorized representatives and agents of the OWNER shall be permitted to inspect all Work materials, payroll, records of personnel, invoices for materials, and other relevant data and records.

The OWNER and Engineer and their representatives shall at all times have access to the work whenever it is in preparation or progress, and the CONTRACTOR shall provide proper facilities for such access and for inspection.

If the specifications, the Engineer's instructions, laws, ordinances, or any public authority require any work to be specially tested or approved, the CONTRACTOR shall give the engineer timely notice of its readiness for inspection, and if the inspection is by another authority than the

Engineer, of the date fixed for such inspection. Inspections by the Engineer shall be promptly made. If any work should be covered up without approval or consent of the Engineers it must, if required by the Engineer, be uncovered for examination and properly restored at the CONTRACTOR's expense.

PART IV

ARTICLE 59: SUBCONTRACTORS

The CONTRACTOR may utilize the services of specialty subcontractors on those parts of the Work which, under normal contracting practices, are performed by specialty subcontractor.

The CONTRACTOR shall not award Work to any subcontractor other than those listed in his bid, without the prior written approval of the OWNER, which approval will not be given until the CONTRACTOR submits a written statement concerning the proposed award to the subcontractor, which statement shall contain such information as the OWNER may require.

The CONTRACTOR shall cause appropriate provisions to be inserted in all subcontracts relative to the Work, to bind the subcontractors to the Contract Documents insofar as applicable to the subcontractor Work and to give the CONTRACTOR the same power as regards to terminating any subcontract that the OWNER may exercise over the CONTRACTOR under any provisions of the Contract Documents.

Nothing contained in this Contract shall create any contractual relationship between the OWNER and any subcontractor.

ARTICLE 60: MUTUAL RESPONSIBILITY OF CONTRACTORS

If, through acts of neglect on the part of the CONTRACTOR, any other contractor or any subcontractor shall suffer loss or damage to the Work, the CONTRACTOR agrees to settle with such other contractor or subcontractor by agreement or arbitration. If such other contractor or subcontractor shall assert any claim against the OWNER on account of any damage alleged to have been sustained, the OWNER shall notify the CONTRACTOR who shall indemnify and save harmless the OWNER against any such claim.

ARTICLE 61: ASSIGNMENTS

The CONTRACTOR shall not assign the whole or any part of this Contract or any monies due or to become due hereunder without the written consent of the OWNER. In case the CONTRACTOR assigns all or part of any monies due or to become due under this Contract, the instrument of assignment shall contain a clause substantially to the effect that it is agreed that the right of the assignee in and to any monies due or to become due to the CONTRACTOR shall be subject to prior claims of all persons, firms, or corporations for services rendered or materials supplied for the performance of the Work called for in this Contract.

ARTICLE 62: SEPARATE CONTRACTS

The OWNER reserves the right to let other contracts in connection with the construction of the contemplated Work of the Project, or continuous Projects of the OWNER. The CONTRACTOR, therefore, will afford to any such other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their Work, will properly connect and coordinate his Work with theirs, and will not commit or permit any act which will interfere with the performance of their Work.

The CONTRACTOR shall coordinate his operations with those of other contractors. Cooperation will be required in the arrangement for storage of materials and in the detailed execution of the Work. Failure by the CONTRACTOR to keep informed on the progress of defective workmanship by others, shall be construed as acceptance by him of the status of the Work as being satisfactory for proper coordination with and performance of his own Work.

ARTICLE 63: WORK BY OTHERS

The OWNER reserves the right to do any other Work which may be connected with, or become a part of, or be adjacent to the Work embraced by this Contract, at any time, by Contract or otherwise. The CONTRACTOR shall not interfere with the Work of such others as the OWNER may employ, and shall execute his own Work in such a manner as to aid in the execution of the Work of others as may be required. No backfilling of trenches or excavations will be permitted until such Work by the OWNER is completed.

PART V

ARTICLE 64: WAGE UNDERPAYMENT AND ADJUSTMENTS

The CONTRACTOR agrees that in case of underpayment of wages to any worker on the Project under this Contract by the CONTRACTOR or any of his subcontractors, the OWNER will withhold from the CONTRACTOR out of payments due to him, an amount sufficient to pay such worker the difference between the wages required to be paid under this Contract and the wages actually paid such worker for the total number of hours worked, and that the OWNER may disburse such amount so withheld by it for and on account of the CONTRACTOR to the employee to whom such amount is due. The CONTRACTOR further agrees that the amount withheld pursuant to this article may be in addition to the percentage to be retained by the OWNER pursuant to other provisions of this Contract.

ARTICLE 65: PAYMENT OF EMPLOYEES

The CONTRACTOR and each of his subcontractors shall pay each of their employees engaged in the Work on the Project under this Contract in full, in cash, and not less than once a week, less

legally required reductions, provided, that when circumstances render payment in cash unfeasible or impracticable, then payment by check may be effected upon consideration that funds are made available in a local bank and checks may be cashed without charge, trade requirements, or inconvenience to the worker.

ARTICLE 66: NON-DISCRIMINATION IN EMPLOYMENT

In connection with the performance of the Work under this Contract, the CONTRACTOR agrees not to discriminate against employee because of race, religion, color, or national origin. The aforesaid provisions shall include but not be limited to the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rate of pay or other forms of compensation and selection for training, including apprenticeship.

ARTICLE 67: APPRENTICES

Apprentices shall be permitted to Work only under a bona fide apprenticeship program registered with a State Apprenticeship Council which is recognized by the Federal Committee on Apprenticeship, United State Department of Labor; or if no such Council exists in a State, under a program registered with the Bureau of Apprenticeship, United State Department of Labor.

PART VI

ARTICLE 68: SHOP OR SETTING DRAWINGS

- a. The CONTRACTOR shall submit promptly to the OWNER six (6) copies of each shop or setting drawing prepared in accordance with a schedule predetermined by the CONTRACTOR. After examination of such drawings by the OWNER, and the return thereof, if resubmission is required, the CONTRACTOR shall make such corrections to the drawings as have been indicated and shall furnish the OWNER with six (6) corrected copies. Regardless of corrections made in or approval given to such drawings by the OWNER, the CONTRACTOR will, nevertheless, be responsible for the accuracy of such drawings and for their conformity to the drawings and Specifications, unless he notifies the OWNER in writing of any deviations at the time he furnishes the drawings.
- b. Shop drawings of all fabricated Work shall be submitted to the OWNER for approval and no Work shall be fabricated by the CONTRACTOR save at his own risk until approval has been given by the OWNER. The Special Conditions define the shop drawings required for this Project.
- c. The CONTRACTOR shall submit all shop and setting drawings on dates sufficiently in advance of requirements to enable the OWNER ample time for reviewing the same, including time for correcting, resubmission and reviewing, if necessary, and no claim for

delay will be granted the CONTRACTOR by reason of his failure in this respect.

- d. All shop drawings submitted must bear the stamp of the CONTRACTOR as evidence that the drawings have been checked by him. Any drawings submitted without this stamp of approval will not be considered and will be returned to the CONTRACTOR for resubmissions. If the shop drawings show deviations from the requirements of the Contract Documents because of standard shop practice or other reason, the CONTRACTOR shall make specific mention of such variation in his letter of transmittal to the OWNER, in order that an acceptable, suitable action may be taken for proper adjustment; otherwise the CONTRACTOR will not be relieved of the responsibility for executing the Work in accordance with the Contract Documents even though the shop drawings have been approved.
- e. Where shop drawings are submitted by the CONTRACTOR that indicate a departure from the Contract which the OWNER deems to be a minor adjustment in his interest and not involving a change in the Contract Price or extension of time, the OWNER may approve the drawings but the approval will contain in substance, the following:

"The modification shown on the attached drawings is approved in the interest of the OWNER to effect an improvement for the Project and is ordered with the understanding that it does not involve any change in the Contract Price or an extension of time, that it is subject generally to all Contract stipulations and covenants; and that it is without prejudice to any rights of the OWNER under the Contract and bond or bonds."
- f. The approval of the shop drawings will be general and shall not relieve the CONTRACTOR from the responsibility for adherence to the Contract, for any error which may exist.
- g. The CONTRACTOR agrees to hold the Engineer and the OWNER harmless and defend them against damages or claims for damages arising out of injury to others or property of third persons which result from errors on shop, working, or setting drawings whether or not they have been approved by the Engineer and/or the OWNER.

ARTICLE 69: WORK TO BE ACCOMPLISHED IN ACCORDANCE WITH THE
DRAWINGS AND SPECIFICATIONS

The Work, during its progress and at its completion, shall conform to the lines and grades shown on the drawings and to the directions given by the OWNER from time to time, subject to such modifications or additions as he shall determine to be necessary during execution of the Work; and in no case will any Work be paid for in excess of such requirements. The Work shall also be accomplished in accordance with the data in these Specifications.

ARTICLE 70: CONTRACTOR TO CHECK DIMENSIONS AND SCHEDULES

The CONTRACTOR will be required to check all dimensions and quantities shown on the drawings or schedules given to him by the OWNER, and shall notify the OWNER of all errors therein which he may discover by examining and checking the same. The CONTRACTOR shall not take advantage of any error or omissions in furnishing all instructions, should such error or omissions be discovered, and the CONTRACTOR shall carry out such instructions as if originally specified.

ARTICLE 71: ADDITIONAL INSTRUCTIONS AND DETAIL DRAWINGS

The CONTRACTOR will be furnished additional instructions and detail drawings as necessary to carry out the Work included in the Contract. The additional drawings and instruction thus supplied to the CONTRACTOR will coordinate with the Contract Documents and will be so prepared that they can be reasonably interpreted as part thereof. The CONTRACTOR shall carry out the Work in accordance with the additional detail drawings and instructions. The CONTRACTOR and the OWNER will prepare jointly a schedule fixing the respective dates for the submission of shop drawings, the beginning of manufacture, testing, and installation of materials, supplies and equipment, and the completion of the various parts of the Work; each schedule to be subject to change from time to time in accordance with the progress of the Work.

ARTICLE 72: MATERIALS, SERVICES, AND FACILITIES

It is understood that, except as otherwise specifically stated in the Contract Documents, the CONTRACTOR shall provide and pay for all materials, labor, tools, equipment, water, light, power, transportation, superintendence, temporary construction of every nature, and all other services and facilities of every nature whatsoever, necessary to protect, execute, complete, and deliver the Work within the specified time.

The CONTRACTOR shall submit to the Engineer for approval material and apparatus included under this contract and as listed in detail under the respective items together with samples, tests of materials, documentary evidence or other information in such detail as may be necessary to permit the Engineer to determine whether the same comply with the specifications, and written approval shall be obtained prior to the incorporation of the material, apparatus or equipment in the work.

Where accepted Standard Specifications for materials or conduct of work are referred to in these specifications, such Standard Specifications shall be considered a part of these specifications the same as if repeated therein verbatim. In the specifications there are specified and shown certain equipment and materials deemed most suitable for the service anticipated. The awarding of the contract will constitute a contractual obligation to furnish the specified equipment and materials unless the CONTRACTOR desired to follow procedures.

After the execution of the contract, substitution of equipment of makes other than those named in the contract will be considered for two reasons only:

- A. That the equipment proposed for substitution is superior in the construction and/or

efficiency to that named in the contract.

- B. That the equipment proposed for substitution is equal in construction and/or efficiency to that named in the contract.

In the event the CONTRACTOR obtains the Engineer's approval on equipment other than that for which the plan was originally laid out, the contractor shall at his own expense make any changes in the structures, buildings or piping necessary to accommodate the equipment named in the contract and if the substitution is approved, the contract price shall be reduced by an amount equal to 75% of the savings, if any.

ARTICLE 73: CONTRACTOR'S TITLE TO MATERIALS

No material, supplies, or equipment for the Work shall be purchased by the CONTRACTOR or any subcontractor, subject to any chattel mortgage or under a conditional sale or other agreement by which an interest therein or in any part thereof is retained by the seller or supplier. The CONTRACTOR warrants good title to all material, supplies, and equipment installed or incorporated in the Work and further warrants upon completion of all Work, to deliver the premises, together with all improvements and appurtenances constructed or placed thereon by him, to the OWNER free from any claims, liens, or charges, or encumbrances and further agrees that neither he nor any person, firm, or corporation furnishing any material or labor or any Work covered by this Contract shall have the right to a lien upon the premises or any improvement or appurtenance thereon.

ARTICLE 74: INSPECTION AND TESTING OF MATERIALS

All materials and equipment used in the construction of the Project shall be new and of current manufacture. Testing will be done in accordance with accepted standards and as directed by the OWNER; the laboratory or inspection agency shall be selected by the OWNER. Except as specified elsewhere in these Specifications, the OWNER will pay for laboratory inspection.

All materials and workmanship shall be subject to inspection, examination, and testing by the OWNER at any and all times during manufacture and/or construction, to establish conformance with these Specifications and suitability for uses intended. Without additional charge, the CONTRACTOR shall furnish promptly all reasonable facilities, labor, and materials necessary to make tests so required safe and convenient. He shall also furnish mill, factory, or other such tests based on the Standards and Tentative Standards of the American Society for Testing materials as required by the OWNER.

ARTICLE 75: DEFECTIVE MATERIALS

No materials shall be laid or used which are known, or may be found to be in any way defective. Any materials found to be defective at the site of Work or upon installation shall be replaced by

the CONTRACTOR at his own expense. Notice shall be given to the OWNER of any defective or imperfect material. Defective or unfit material found to have been laid, shall be removed and replaced by the CONTRACTOR with sound and unobjectionable material, without additional cost to the OWNER.

ARTICLE 76: PATENTS

- a. The CONTRACTOR shall hold and save the OWNER harmless from liability of any nature or kind, including cost and expenses for, or on account of, any patented or unpatented invention, process, article, or appliance manufactured or used in the Contract, including its use by the OWNER.
- b. License and/or royalty fees for the use of a process which is authorized by the OWNER must be reasonable, and paid to the holder of the patent, or his authorized agent, directly by the CONTRACTOR.
- c. If the CONTRACTOR uses any design, device or material covered by letters, patent, or copyright, he shall provide for such use by suitable agreement with the OWNER or such patent or copyrighted design, device, or material.
- d. It is mutually agreed and understood that, without exception, the Contract Price shall include all royalties, license fees, or costs arising out of the use of such process, design, device, or materials, in any way involved in the Work. The CONTRACTOR and/or his Surety shall indemnify and save the Engineer and the OWNER harmless from all claims for infringement by reason of use of such patented material, device, or design in connection with the Work under this Contract, and shall indemnify the Engineer and the OWNER for any cost, expense, or damage which it may be obligated to pay for reason of such infringement at any time during the prosecution of the Work.

ARTICLE 77: "OR APPROVED EQUAL" CLAUSE

- a. Whenever a material or article required is specified or shown on the drawings by using the name of the proprietary product or of a particular manufacturer or vendor, any material or article which will perform adequately the duties imposed by the general design may be considered equal and satisfactory providing the material or article so proposed is of equal substance and function in the OWNER'S sole opinion. It shall not be purchased or installed without his written approval. In all cases, new material shall be used on the Project.
- b. If two (2) or more brands, makes of material, devices, or equipment are shown or specified, each should be regarded as the approved equal of the other. Any other brand, make or material, device or equipment, which, in the opinion of the OWNER or his authorized agent, is the recognized approved equal of that specified, considering quality, workmanship, and economy of operation, and is suitable for the purpose intended, may be accepted.

- c. If any other material or article is substituted for items shown or specified, the Project must result in a savings in the Contract Price and the CONTRACTOR shall submit evidence that the substitute product is equal. Upon approval of the substitute product, the OWNER will issue a deductive change order.
- d. If an equipment manufacturer must have a specified period of experience with his product, equipment which does not meet with the specified experience period may, at the option of the OWNER, be considered if the equipment supplier or manufacturer is willing to provide a bond or cash deposit for the duration of the specified time period which will guarantee replacement of that equipment in the event of failure.

PART VII

ARTICLE 78: INSURANCE

The CONTRACTOR shall be responsible for maintaining insurance coverage in force for the life of this Contract of the kind and adequate amounts to secure all of this obligations under this Contract and with insurance companies licensed to write such insurance in the State of Rhode Island and acceptable to the OWNER. The kinds and amounts of such insurance carried shall not be less than the kinds and amounts of insurance coverage designated in the Special Conditions, and the CONTRACTOR agrees that the stipulation therein of the kinds and minimum amounts of coverage or the acceptance by the OWNER of certificates indicating the kinds and limits of coverage shall in no way limit the liability of the CONTRACTOR to any such kinds and amounts of insurance coverage. All policies issued shall indemnify and save harmless the OWNER, the Engineer, and their agents or representatives from any and all claims for damages arising out of the Contract, to either persons or property.

Policies and certificates of all insurance shall be submitted to the OWNER by the CONTRACTOR in sextuplicate (6 copies) prior to preparation of the construction Contract. In the event that the form of any policy or amount or insurance company writing same is not satisfactory to the OWNER, the CONTRACTOR shall re-submit all required items to the OWNER prior to the signing of the Contract. This requirement to re-submit shall not automatically extend the time limit specified elsewhere in these documents for the submittal of required items. The CONTRACTOR shall not cause policies to be canceled or permit them to lapse, and all insurance policies shall include a clause to the effect that the policy shall not be subject to cancellation or a reduction in the required limits of liability amounts of insurance until notice has been sent by registered mail to the OWNER, stating when, not less than ten (10) days thereafter, such cancellation or reduction shall be effective. All certificates of insurance shall contain true transcripts from the policy, authenticated by the proper officer of the insurer evidencing in particular, those insured, the extent of the insurance, the location and operations to which the insurance applies, the expiration date, and the above-mentioned notice of cancellation clause.

The CONTRACTOR shall be responsible for the provision of identical insurance coverage for all

his subcontract operations and, in the event that the CONTRACTOR'S policies do not cover each and every subcontractor, certificates of insurance issued on policies by companies that are acceptable to the OWNER covering each and every subcontractor shall be filed under the OWNER in sextuplicate (6 copies) prior to the commencement of such subcontract operations. All insurance specified in this Contract shall be provided by the CONTRACTOR, at no additional expense to the OWNER.

PART VIII

ARTICLE 79: COMPENSATION TO BE PAID TO THE CONTRACTOR

- a. The OWNER will pay and the CONTRACTOR shall receive as full compensation for everything furnished and one by the CONTRACTOR under this Contract, the unit prices and lump sum prices set opposite the respective items in the accepted bid form herein contained, and payment for approved extra Work.

The cost of all Work required not specifically included in any items herein mentioned, and also for all loss or damage arising out of the nature of the Work aforesaid or from the action of the elements, or from any unforeseen obstruction or difficulty encountered in the prosecution of the Work and for all risks of every description connected with the Work, and for all expenses incurred by or in consequence of the suspension or discontinuance of the Work as herein specified, and for assuming all duties, and liabilities, herein required, and for well and faithfully completing the Work, and the whole thereof, as herein provided, shall be the responsibility of the CONTRACTOR.

- b. The amount of the Contract (accepted bid price/prices) listed in the bid is based on the estimated quantities and the unit and/or lump sum price as set forth in the bid. It is understood and agreed that the CONTRACTOR will accept as payment the actual measured quantities at the unit and/or lump sum price as set forth in the accepted bid.
- c. The estimated quantities given in the bid proposal for the various items of Work are given for the purpose of comparing the bids offered for the Work under this Contract and if it is found in the performance of the Contract Work that any or all of the said estimated quantities are not even approximately correct, the CONTRACTOR shall have no claim for anticipated profits, or for loss of profit, or for increase in prices as listed in the accepted bid because of the difference between the quantities of the various items of Work actually done and the estimated quantities stated in the accepted bid.
- d. No payment or compensation will be made to the CONTRACTOR for damages because of hindrance or delay from any cause in the progress of the Work, whether such hindrances or delays be avoidable or unavoidable.

ARTICLE 80: PAYMENTS TO CONTRACTOR

- a. At least ten (10) days before each progress payment falls due (but not more often than once a month), the CONTRACTOR shall submit to the OWNER a partial payment estimate filled out and signed by the CONTRACTOR covering the Work performed during the period covered by the partial payment estimate and supported by such data as the OWNER may reasonably require. If payment is requested with the OWNER'S permission of the basis of materials and equipment not incorporated in the Work, but delivered and suitably stored at or near the site, in accordance with the manufacturer's recommendation and as required by the OWNER, the partial payment estimate shall also be accompanied by such supporting data satisfactory to the OWNER, as will establish the OWNER'S title to the material and equipment applicable insurance. The OWNER will within ten (10) days after receipt of each partial payment estimate, either indicate in writing his approval, or return the partial payment estimate to the CONTRACTOR indicating in writing his reasons for refusing to approve payment. In the latter case, the CONTRACTOR may make the necessary corrections and resubmit the partial payment estimate. The OWNER will within thirty (30) days of presentation to him of an approved partial payment estimate, pay the CONTRACTOR a progress payment on the basis of the approved partial payment estimate. The OWNER shall retain ten (10) percent of the amount of each payment, plus any additional percent which is specified in these documents.
- b. The retainage shall remain at ten percent (10%) until sixty-five percent (65%) of the Contract is complete. At that time, if the OWNER decides the CONTRACTOR is making adequate progress, the OWNER may reduce retainage to five percent (5%). Any further reduction will be at the OWNER's discretion. At no time shall retainage be reduced below two percent (2%), until completion of the one-year General Guarantee period.
- c. With each partial payment estimate, the CONTRACTOR shall certify in writing that the Project As-Built Drawings are being maintained accurately and currently. Said certificate shall be signed by the CONTRACTOR'S Superintendent and the CONTRACTOR'S Engineer or Surveyor. Any payment estimate not having said certification attached will be subject to refusal of payment.
- d. Prior to substantial completion, the OWNER, with the approval and concurrence of the CONTRACTOR, may use any completed or substantially completed portions of the Work. Such use shall not constitute an acceptance of such portion of the Work.
- e. The OWNER shall have the right to enter the premises for the purpose of doing Work not covered by the Contract Documents. This provision shall not be construed as relieving the CONTRACTOR of the sole responsibility for the care and protection of the Work or the restoration of any damaged Work except such as may be caused by agents or employees of the OWNER.
- f. Upon completion and acceptance of the Work, the OWNER shall issue a certificate

attached to the final payment request that the Work has been accepted by him under the conditions of the Contract Documents. The entire balance found to be due the CONTRACTOR, less a two percent (2%) retainage plus other such sums as may be lawfully retained by the OWNER, shall be paid to the CONTRACTOR within forty-five (45) days of completion and acceptance of the Work. The two percent (2%) retainage shall be paid to the CONTRACTOR at the completion of the one-year General Guarantee period (see General Conditions, "Article 25: General Guarantee").

- g. The CONTRACTOR will indemnify and save the OWNER or the OWNER'S representative harmless from all claims growing out of the lawful demands of subcontractors, laborers, workmen, mechanics, materialmen, and furnishers of machinery and parts thereof, equipment, tools and all supplies incurred in the furtherance of the performance of the Work. The CONTRACTOR shall at the OWNER'S request furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged, or waived. If the CONTRACTOR fails to do so, the OWNER may, after having notified the CONTRACTOR, either pay unpaid bills or withhold from the CONTRACTOR'S unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the CONTRACTOR shall be resumed in accordance with the terms of the Contract Documents. This shall not be construed to impose any obligations upon the OWNER to either the CONTRACTOR, his Surety, or any third party. In paying any unpaid bills of the CONTRACTOR, any payment so made by the OWNER shall be considered as a payment made under the Contract Documents by the OWNER to the CONTRACTOR and the OWNER shall not be liable to the CONTRACTOR for any such payments made in good faith.

ARTICLE 81: CHANGE ORDERS

- a. The OWNER may, at any time, without notice of the sureties, by written order designated or indicated to be a Change Order, make any change in the Work within the general scope of this Contract, including but not limited to changes:
 - 1. In the Specifications (including drawings and design);
 - 2. In the method or manner of performance of the Work;
 - 3. In the OWNER-furnished facilities, equipments, materials, services or site; or
 - 4. Directing acceleration in the performance of the Work.
- b. Any other written order or an oral order (which terms as used in this paragraph (b) shall include direction, instruction, interpretation or determination) from the OWNER, which causes any such change, shall be treated as a Change Order under this clause, provided that the CONTRACTOR gives the OWNER written notice stating the date, circumstances, and source of the order and that the CONTRACTOR regards the order as a Change Order.
- c. Except as herein provided, no order, statement, or conduct of the OWNER shall be treated as a change under this clause or entitle the CONTRACTOR to an equitable

adjustment hereunder.

- d. If any change, by Change Order, causes an increase or decrease in the CONTRACTOR'S cost of, or the time required for, the performance of any part of the Work under this Contract, an equitable adjustment shall be made and the Contract modified in writing accordingly: provided; however, that no claim for any Change Order (b) above shall be allowed for any costs incurred more than twenty (20) days before the CONTRACTOR gives written notice as therein required: and, provided further, that in case of defective Specifications for which the OWNER is responsible, the equitable adjustment shall include only increased cost reasonably incurred by the CONTRACTOR in attempting to comply with such defective Specifications.
- e. If the CONTRACTOR intends to assert a claim for an equitable adjustment under this clause, he must, within thirty (30) days after receipt of a written Change Order under (a) above or the furnishing of a written notice under (b) above, submit to the OWNER a written statement setting forth the general nature and monetary extent of such claim, unless this period is extended by the OWNER. The statement of claim hereunder may be included in the notice under (b) above.
- f. No claim by the CONTRACTOR for an equitable adjustment hereunder for any amount shall be allowed unless agreed to by Change Order prior to the Work being done.

ARTICLE 82: CHANGES IN THE WORK

No changes in the Work covered by the approved Contract Documents shall be made without having prior written approval of the OWNER. Charges or credits for the Work covered by the approved changes shall be determined by one or more, or a combination of the following methods as the OWNER shall direct:

- a. Unit price bid previously approved;
- b. The actual cost of: labor, materials, OWNERship or rental costs of construction plant and equipment during the use of item on the extra Work; power and consumable supplies for the operation of power and equipment;
- c. Insurance; and
- d. Social Security and Unemployment contributions.

To the cost of "b" above, there shall be added a fixed fee to be agreed upon but not to exceed ten (10) percent. The fee shall be compensation to cover the cost of supervision, overhead, bonds, profits, and any other general expenses.

If a subcontractor performs the Work, he shall be entitled to a maximum of 10% as a fixed fee, and the general CONTRACTOR shall be entitled to a maximum of 5% (of the cost of the

subcontract work excluding subcontractor fixed fee) as a fixed fee.

ARTICLE 83: CLAIMS FOR EXTRA COST

No claims for extra Work or cost will be allowed unless the same were done in pursuance of a written order of the OWNER as aforesaid, and the claim presented with the first estimate after the changed or extra Work is done. When the Work is performed under terms specified elsewhere in the Contract, the CONTRACTOR shall furnish satisfactory bills, payrolls, and vouchers covering all items of cost and upon the OWNER'S request, give him full access to the accounts relating thereto.

ARTICLE 84: CHANGES AND MODIFICATIONS

The OWNER reserves the right to delete or cancel any item or items or parts thereof as listed in the bid, without recourse by the CONTRACTOR. The OWNER also reserves the right to add to any item as listed in the bid. The compensation to be paid to the CONTRACTOR for such additional extensions, appurtenances, or items shall be made under the applicable items in the bid. If no applicable items are provided in the bid, the compensation to be paid the CONTRACTOR shall be set forth under the article entitled "Changes In The Work" as found herein.

ARTICLE 85: DEDUCTION FOR UNCORRECTED WORK

If the OWNER deems it inexpedient to correct work that has been damaged or that was not done in accordance with the CONTRACTOR, an equitable deduction from the Contract price shall be made therefore.

ARTICLE 86: CORRECTION OF WORK BEFORE FINAL PAYMENT

The contractor shall promptly remove from the premises all materials condemned by the OWNER as failing to meet Contract requirements, whether incorporated in the work or not, and the CONTRACTOR shall promptly replace and re-execute his work in accordance with the Contract and without expense to the OWNER and shall bear the expense of making good all work of other contractors destroyed by such removal or replacement.

If the CONTRACTOR does not remove such condemned work and materials as promptly as possible, after written notice, the OWNER may remove them and store the material at the expense of the CONTRACTOR.

ARTICLE 87: ACCEPTANCE OF THE FINAL PAYMENT CONSTITUTES RELEASE

The acceptance of the Final Payment by the CONTRACTOR shall be and shall operate as a release to the OWNER for all claims and all liability to the CONTRACTOR for all things done or furnished in connection with this Work and for every act or neglect of the OWNER and others relating to or arising out of this Work. No payment, however, final or otherwise, shall operate as

a release of the CONTRACTOR or his Surety from any obligations under this Contract, the Performance Bond, or the Labor and Material Payment Bond.

ARTICLE 88: FEDERAL DRUG AND ALCOHOL TESTING PROGRAM

Any and all contractors/subcontractors performing work under this contract shall, where applicable, comply with the Federal Omnibus Transportation Employee Testing Act of 1991 (the “Act”), which requires controlled substance and alcohol testing of all employees that perform safety sensitive duties and/or functions, and/or who hold a Commercial Drivers License (CDL). To the extent allowable under the confidentiality provisions of the Act, the Town reserves the right to review the contractor’s/subcontractor’s testing programs for compliance.

DIVISION 0

ADDITIONAL BID CONDITIONS

INFORMATION AVAILABLE TO BIDDERS
SECTION 00800

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SECTION 00800

ADDITIONAL INFORMATION TO BIDDERS

1.00 GENERAL

1.01 PERMITS

- A. The Owner has filed and secured approval from the Rhode Island Department of Health – Division of Drinking Water Quality for the rehabilitation of two (2) water storage tanks (Kinney Avenue and North End) as depicted on the project plans and as described herein. A copy of this letter of approval shall be made available to the successful bidder. Contractor shall comply with all provisions in the aforementioned approval.
- B. These permits / approvals and the provisions contained therein shall become part of the Contract Documents.
- C. In the event that provisions in these permits / approvals vary significantly from the project plans or specifications, Contractor shall notify Owner in writing as to these differences. Significant variations in the project shall be handled through project change order.
- D. Contractor shall be responsible for proper and timely procurement of all local and state construction licenses, fees, permits, taxes or any such items necessary for completion of the project. The costs of which shall be included in the Contractor's bid price.

1.02 LAYOUT OF WORK

- A. Base of vertical levels for project is as indicated on plans.
- B. Horizontal and vertical layout of piping systems, fences and gates and appurtenances shall be performed by Contractor in the field and approved by Owner and shall be premised upon the existing site and facility features. The existing site features and underground piping shall be the basis for layout of all work on the project to be performed by the Contractor.
- C. Contractor shall provide a suitable, clear, and leveled staging area within the project area. This includes a suitable access roadway from public right-of-way to the project site to a point up to the site.

1.03 SITE ACCESS / LEAD BASED COATINGS

- A. All construction operations and activities shall be confined to within the limits of Assessor's Map Y Lot 1A (Kinney Avenue Water Storage Tank) and Assessor's Map N-A Lots 194 and 42B (North End Water Storage Tank), abutting public rights of way, designated access easements and to limits of disturbance as defined on the drawings.
- B. Portions of the subject sites at the Kinney Avenue and North End tank sites have been previously

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identified to contain soils with total lead concentrations that exceed 150 mg/kg. An investigation and remediation project involving sampling, excavation, removal and disposal of lead impacted soils, has been completed for the sites in accordance with RIDEM Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases.

The Contractor is required to conduct a pre and post condition assessment of the sites in accordance with the Specifications. The Owner may collect and analyze additional soil samples following completion of the Contractor's rehabilitation activities to confirm lead concentrations in onsite or offsite soils. Contractor shall be required to remediate any soils recontaminated as a result of lead released during the tank rehabilitation project in accordance with all applicable regulations.

1.04 TANK CONDITION SURVEYS

- A. Reports of tank condition survey conducted by Underwater Solutions Inc. for the storage tanks are included in Appendix B – Kinney Avenue Tank Inspection Report and Appendix C – North End Tank Inspection Report.

1.05 TANK LEAD BASED COATINGS

- A. The exterior coatings system on the tanks have been confirmed to contain lead coatings.
- B. It is undetermined if the existing interior coating systems on the tanks contain lead based coatings. However, for purposes of this project, the Contractor shall assume that the interior coatings for the tanks are lead based and take proper care and precaution in the completion of the work and include all resultant costs in his bid proposal.**
- C. Contractor shall be considered so notified of these conditions and shall conduct its operations in accordance with all requirements of the RIDEM, OSHA, and applicable regulatory agencies.

1.06 COORDINATION WITH TELECOMMUNICATION COMPANIES

- A. The Contractor is hereby notified of the following conditions on the project and shall be considered by the Town as duly notified of such. The water storage tank sites and tank structures are occupied by Cellular Communication Companies which maintain active antenna, cables, equipment, etc. through lease agreements with the Town.
- B. The Owner has notified these Cellular Communication Companies of this project and the potential need for the temporary removal of existing equipment off of the tank structures to facilitate construction during the project. Contractor shall be required to coordinate directly with these companies or their designated representatives and shall take proper care and precaution when working in and around this equipment.
- C. Contractor shall be required to coordinate with the Cellular Communication Companies for any temporary dismantling and remounting of equipment on the scaffolding; installation (welding of new brackets) and remounting of telecommunication equipment on the tanks that may occur once

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the project is complete. Reference Section 13850 *Cellular Antenna Equipment Work and Coordination*.

END OF DOCUMENT

SPECIAL CONDITIONS

SECTION 00900

INDEX TO THE SPECIAL CONDITIONS

<u>ARTICLE NO.</u>	<u>TITLE</u>
1	ENUMERATION OF DRAWINGS, SPECIFICATIONS AND ADDENDA
2	SUBSURFACE DATA
3	EXISTING UTILITIES AND CONNECTIONS
4	INTERFERENCE WITH EXISTING STRUCTURES
5	REMOVAL OF WATER AND PROTECTION FROM FLOODING
6	PROTECTION OF TREES
7	PROVISION FOR FLOW OF PRESENT DRAINAGE
8	POLLUTION OF WATERS
9	TURF, TOPSOIL, AND OTHER REPLACED ITEMS
10	LENGTH OF TRENCH TO BE OPENED
11	RESERVED MATERIALS
12	PLANK CROSSINGS
13	CLEANING FINISHED WORK
14	FIRE AND POLICE NOTIFICATION
15	STREETS AND SIDEWALKS TO BE KEPT OPEN
16	BLASTING
17	PROTECTION OF TRAFFIC
18	TRAFFIC CONTROL

ARTICLE 1: ENUMERATION OF DRAWINGS, SPECIFICATIONS AND ADDENDA

The following are the Drawings, Specifications, and Addenda which form a part of this Contract, as set forth in Article 1 of the General Conditions of these Contract Documents.

- a. DRAWINGS Titled "Rehabilitation of Kinney Avenue and North End Water Storage Tanks"
- b. GENERAL CONDITIONS
- c. SPECIAL CONDITIONS Drawing Numbers G-1, C-1 & d-1
- d. TECHNICAL SPECIFICATIONS

ARTICLE 2: SUBSURFACE DATA

Subsurface soil information and investigations have been obtained for use by the OWNER for the purpose of design of the Project; the subsurface soils data that may be shown, including the results of borings indicated in the Specifications (if available), are for the general information of the CONTRACTOR and the bidders; the attention of both is directed to the fact that by reason of methods commonly used for obtaining and expressing such boring data, this information and data may be limited and subject to error or misunderstanding. The terms used to describe soils, rock, groundwater, and such other conditions are subject to local usage and to the individual interpretation of the person making and obtaining the records. The borings have been made with reasonable care, substantially at the locations indicated on the Drawings, and to the depths shown. Groundwater levels indicated in the Specifications are those reported by the driller to be existing at the particular boring location at the time subsurface investigations were made and do not necessarily represent permanent groundwater levels. It shall be the responsibility of the CONTRACTOR to determine for himself annual and seasonal variations in groundwater levels which may affect his Work. Each bidder is expected to examine the site and the compiled record of investigations and information and then, based on his own inspection, interpretations, and such other investigations as he may desire, decide for himself the character of the materials to be used for backfilling and such other purposes; groundwater conditions; difficulties or obstacles likely to be encountered; and other conditions affecting the Work.

No warranty, either expressed or implied by the OWNER, the Engineer, or their agents, is made as to the accuracy of the subsurface information and the data indicated in the Specifications. The Engineer and the OWNER, together with their agents will not assume responsibility for any consequences, delays, expenses, or losses which may occur or have occurred in the event that such information shall be found to be incomplete, incorrect or misleading; nor shall such variations or inaccuracies in the indications of subsurface information and data constitute grounds for revision in the Contract Price or the time of completion.

ARTICLE 3: EXISTING UTILITIES OR CONNECTIONS

The location of existing underground pipes, conduits, and structures as shown has been collected from the best available sources, and the OWNER, together with his agents, does not imply or guarantee the data and information in connection with underground pipes, conduits, structures, and such other parts, as to their completeness, nor their locations as indicated. The CONTRACTOR shall assume that there are existing water, gas and other utility connections to each and every building en route, whether they appear on the drawings or not. Any expense and/or delay occasioned by utilities and structures or damage thereto, including those not shown, shall be the responsibility of the CONTRACTOR, at no additional expense to the OWNER.

Before proceeding with construction operations, the CONTRACTOR shall make such supplemental investigations, including exploratory excavations by hand digging, as he deems necessary to uncover and determine the exact locations of utilities and structures and shall have no claims for damages due to encountering subsurface structures or utilities in locations other than those shown on the drawings, or which are made known to the CONTRACTOR prior to construction operations. The CONTRACTOR shall be responsible and liable for all damages to existing utilities and structures.

ARTICLE 4: INTERFERENCE WITH EXISTING STRUCTURES

Whenever it may be necessary to cross or interfere with existing culverts, drains, sewers, water pipes, fixtures, guardrails, fences, gas pipes, or other structures needing special care, due notice shall be given to the OWNER, and the Work shall be done according to his directions. Whenever required, all objects shall be strengthened to meet any additional stress that the Work herein specified may impose upon it, and any damage caused shall be thoroughly repaired. If so directed by the OWNER, the location of any existing Work shall be changed to meet the requirements of the new utilities or appurtenances or the utilities system may be relocated, if necessary to leave all in good working order. The entire Work shall be performed at no expense to the OWNER.

The CONTRACTOR shall be responsible for all broken mains or utilities encountered during the progress of the Work and shall repair and be responsible for correcting all damages to existing utilities and structures at no additional cost to the OWNER. The CONTRACTOR shall contact the proper utility or authority to correct or make any changes due to utilities or other obstructions during the Work or construction of the utilities system, but the entire responsibility and expense shall be with the CONTRACTOR, except as otherwise specified herein.

All damaged items of Work or items required to be removed and replaced due to construction shall be replaced or repaired by the CONTRACTOR to the complete satisfaction of the property OWNER and/or the OWNER, and at no additional expense to the OWNER.

ARTICLE 5: REMOVAL OF WATER AND PROTECTION FROM FLOODING

The excavations for pipelines, structures, and appurtenant Work required under this Contract are to some extent below existing groundwater levels. The CONTRACTOR shall construct and maintain all pumps, drains, wellpoints or any other facilities for the control, collection, and disposal of groundwater or surface and subsurface water encountered in the performance of the Contract Work and provide all pumps, piping, and ditching for the removal of water from the trenches and excavations so that all trenches and excavations may be kept free from water at all times and so that the Work under this Contract may be performed in the dry. Any damage to existing Work or to the Contract Work resulting from the failure of the CONTRACTOR'S dewatering operations, shall be repaired by the CONTRACTOR, as directed by the OWNER, at no additional expense to the OWNER. The CONTRACTOR'S dewatering and pumping operations shall be carried out in such a manner that no loss of ground will result from these operations. Precautions shall be taken to protect new and existing Work from flooding or damage during storms or other causes. Pumping shall be continuous where directed and necessary to protect the Work and to maintain satisfactory progress. All pipelines or structures not stable against uplift during construction or prior to completion shall be thoroughly braced or otherwise protected. Water from the trenches, excavations, and drainage operations shall be disposed of in such a manner as will neither cause injury to public health or private property, nor to the Work completed or in progress. Dewatering of excavations shall be accomplished by methods which have

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been approved, prior to commencement of Work, by the Owner and which have a background of successful dewatering of excavations of the type employed for the Work. The CONTRACTOR shall construct ditches, do all grading, and do all other Work as may be necessary to divert and exclude surface water from dewatering operations from excavation and Work areas.

ARTICLE 6: PROTECTION OF TREES

The CONTRACTOR shall take special care to preserve and protect from injury all trees located along the lines of construction, and no such trees shall be cut down, trimmed, or otherwise cut without permission from the OWNER.

ARTICLE 7: PROVISION FOR FLOW OF PRESENT DRAINAGE

Provision for the flow in all sewers, drains and water courses that are met or altered during the construction shall be provided by the CONTRACTOR and all connections shall be restored without extra charge. All offensive matter shall be removed immediately with such precautions as may be directed. If required, the CONTRACTOR shall install temporary bypass connections for sewer, drains and water facilities to provide uninterrupted or continuous service during the Work or construction.

ARTICLE 8: POLLUTION OF WATERS

Special care shall be taken to prevent contamination of muddying up or interfering in any way with the stream flows, if any, along the line of Work. No waste matter of any kind will be allowed to discharge into the stream flows or impounded water of any pools or other bodies of water.

ARTICLE 9: TURF, TOPSOIL AND OTHER REPLACED ITEMS

Where the system is constructed through the cultivated or sodded lands, the Contractor shall save the turf and topsoil separately and replace the same after the trench is filled, leaving the land as nearly as possible in its original condition. Trees, fences, walls, walks, mailboxes and such other items must not be damaged.

ARTICLE 10: LENGTH OF TRENCH TO BE OPENED

The length of trench to be opened at any time from the point where ground is being broken to complete backfill and also the amount of space in the streets or public and private lands occupied by equipment or supplies, shall not exceed the length or space considered reasonably necessary and expedient by the Owner. In determining the length of the open trench or spaces for equipment, materials and supplies and other necessities, the OWNER will consider the nature of the lands or streets where Work is being done, types and methods of construction and equipment being used, inconvenience to the public or to private parties, possible dangers and other matters. All Work must be constructed with a minimum of inconvenience and danger to all parties concerned. Temporary pavement shall be installed in all roadway excavations prior to ending construction work for each day of operation.

Whenever the trench obstructs pedestrians and vehicular traffic, or any public or private property, the CONTRACTOR shall take such means as is necessary to maintain such traffic and access. Until such time as the Work may have attained sufficient strength to support backfill, or if for any reason it is not expedient to backfill the trench immediately, the CONTRACTOR shall construct and maintain suitable

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plank crossings and bridge crossings to carry essential traffic in or to the street or property in question, as specified or directed.

Suitable lights, signs, and such required items to direct traffic shall be furnished and maintained by the CONTRACTOR.

The CONTRACTOR shall keep streets free from obstructions, debris and all other materials. The OWNER may, at any time, order the removal of any such material from the Work area and should the CONTRACTOR fail to do so within 24 hours after such notice of removal of the same, the OWNER may cause the material, debris, or other matter to be removed by some other such persons as he may employ, at the CONTRACTOR'S expense. The cost thereof may be deducted from any payments due the CONTRACTOR under this Contract. In special cases where public safety demands, the OWNER may remove such materials without prior notice.

ARTICLE 11: RESERVED MATERIALS

Materials found on the Work site suitable for any special use, shall be preserved for that purpose. Where permitted, the CONTRACTOR may use in the various parts of the Work, without charge, any materials taken from the excavation.

ARTICLE 12: PLANK CROSSINGS

As required or directed by the OWNER, the CONTRACTOR shall install in selected locations suitable plank crossings, substantially built and reinforced to sustain vehicular traffic across excavations. No separate payment will be made for this Work, the cost of which shall be included in the prices stipulated for the appropriate items in the Work as listed in the bid.

ARTICLE 13: CLEANING FINISHED WORK

After the Work is completed, the pipes, manholes and structures shall be carefully cleaned free of debris and dirt, broken masonry, and mortar, and left in first class condition, ready to use. All temporary or excess materials shall be disposed of off-site and the Work left broom-clean, to the satisfaction of the OWNER.

ARTICLE 14: FIRE, POLICE AND PUBLIC NOTIFICATION

If it becomes necessary at any time to temporarily barricade a street or cause detours to be put up, or rerouting of traffic, the Fire and Police Departments shall be notified by the CONTRACTOR, and their consent obtained before any such action is initiated. Contractor shall notify the local Board of Education, school district, and school bus transportation service of any road closures or detours so that school buses may be rerouted as necessary.

ARTICLE 15: STREETS AND SIDEWALKS TO BE KEPT OPEN

The CONTRACTOR shall at all times keep the streets and highways in which he may be working open for pedestrian and vehicular traffic. If in the opinion of the OWNER, the interest of abutters and the public requires it, the CONTRACTOR shall bridge or construct planking across trenches at street crossings and roads or private ways. The CONTRACTOR shall conduct his Work in such a manner as

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the OWNER may direct from time to time. No sidewalk shall be obstructed where it is possible to avoid it.

ARTICLE 16: BLASTING

Blasting of rock is not allowed. Rock shall be removed by mechanical means.

ARTICLE 17: PROTECTION OF TRAFFIC

- A. The CONTRACTOR shall inconvenience traffic as little as possible and shall provide suitable barricades, red lights, "Danger" or "Caution" signs at all places where the Work constitutes in any way a hazard to the public. All barricades and obstructions along public roads shall be illuminated at night and all lights for this purpose shall be kept running from sunset to sunrise.
- B. In addition, the CONTRACTOR shall provide and maintain such other warning signs and barricades in other areas as may be required for the safety of those employed in the Work or visiting the site.
- C. The CONTRACTOR shall provide watchmen at particularly dangerous locations such as railroads, heavily traveled roadways and similar locations and where ordered by the OWNER.
- D. Access to private properties over driveways shall be maintained. Temporary structures erected by the CONTRACTOR to accomplish this shall be safe. The CONTRACTOR shall be liable for any damage or injury resulting from the Work.
- E. Arrangements for traffic protection and control, detours, barricades, danger signs and warning lights shall be provided in accordance with local jurisdictional authorities' requirements.

ARTICLE 18: TRAFFIC CONTROL

Efforts shall be made to preserve two lane traffic on all roads, except in areas where it becomes necessary, then one lane of traffic will be open for traffic. At all road crossings where "open cut construction" will be allowed one lane of traffic will be preserved.

When it is necessary to close a street temporarily, detours shall be provided and plainly and adequately marked, and shall conform to the local authorities. Adequate barricades, lights and other warnings shall be provided and erected to protect the public from the Work. The CONTRACTOR shall provide local police to direct traffic at major intersections and as directed by the Engineer.

No additional compensation shall be allowed for traffic control. All costs thereof shall be included in the lump sum and unit prices Bid for the Work.

SECTION 00920

ENGINEER'S SUPPLEMENTAL CONDITIONS

ENGINEER'S SUPPLEMENTAL CONDITIONS

- A. General: Contractor shall conform to all special conditions as herein specified.
- B. Maintenance and Protection of Work Site: Contractor's attention is directed to the fact that the project areas are presently utilized as Water Works Facilities – Water Storage Tanks. Contractor shall ensure that adequate controls (i.e. barricades, barrels, cones, signs, etc.) are installed prior to beginning project; to protect the public and Town of Narragansett employees from personal injury or damage to property within the limits of and for the duration of the contract. The normal work week shall be from Monday through Friday. No work shall be performed on weekends or holidays, unless authorized by the Engineer. Contractor's operations shall not interfere with normal operations of the site.
- C. Security: Contractor shall ensure that at all times during construction the facility is under lock and key and not accessible by the public.
- D. Salvaged Materials: Owner has first right of refusal of any items removed. Contractor will not be allowed any credit claimed on any expected salvaged materials to be removed. All materials destined for disposal shall be removed from the project site within 24 hours of removal.
- E. Physical Data: Information and data furnished or referred to herein and on the plan sheets is provided for the Contractor's information and has been assembled from the best available information. It is expressly understood that the Owner and Engineer will not be responsible for any interpretations or conclusions derived from this data.
- F. Site Restoration: Contractor shall restore all site features and other areas damaged or destroyed during operations outside the limits of the approved work areas. This work will be accomplished at the Contractor's expense.
- G. Single Contract Responsibility (Project Coordination): Work included in these Contract Documents is to be performed under the responsibility of a single prime contract. Contractor is responsible for the coordination of all the work, whether performed by its own personnel or its subcontractors, and will maintain such procedures as necessary to keep its workmen and suppliers informed of project progress so as not to unnecessarily delay completion of the work. Prime Contractor shall have on site at all times during the work, including work performed by all subcontractors an on site representative who shall be responsible for scheduling all work and coordinating with Owner/Engineer.
- H. Safety: Contractor is solely responsible for site safety on all project related matters. Contractor shall comply with all applicable Federal, State and local laws, ordinances, rules and regulations and lawful orders of all authorities having jurisdiction for the safety of persons and protection of property.
- I. Environmental Protection: Contractor shall be familiar with all Federal, State and local laws, regulations and permits concerning environmental protection, pollution control and abatement, that are applicable to the proposed operations and the requirements imposed by these laws, regulations and permits. Contractor shall provide certificate of insurance

indicating coverage for pollution (hazardous material waste) liability insurance, as may be required.

- J. Control and Diversion of Water: Contractor shall be responsible during the course of his work for providing all controls (i.e. erosion protection and siltation prevention facilities, etc.). To prevent damage by surface waters, groundwater, and/or storm water runoff to the project site and adjacent areas. This shall include all erosion and sedimentation controls, which may be required by local, State or Federal agencies.
- K. Existing Utilities or Connections: The location of existing underground pipes, conduits, and structures as shown has been collected from the best available sources, and the OWNER, together with his agents, does not imply or guarantee the data and information in connection with underground pipes, conduits, structures, and such other parts, as to their completeness, nor their locations as indicated. The CONTRACTOR shall assume that there are existing water, gas and other utility connections to each and every building in route, whether they appear on the drawings or not. Any expense and/or delay occasioned by utilities and structures or damage thereto, including those not shown, shall be the responsibility of the Contractor, at no additional expense to the OWNER.
- L. Interference with Existing Structures: Whenever it may be necessary to cross or interfere with existing culverts, drains, sewers, water pipes, fixtures, guardrails, fences, gas pipes, or other structures needing special care, due notice shall be given to OWNER, and the Work shall be done according to his directions. Whenever required, all objects shall be strengthened to meet any additional stress that the Work herein specified may impose upon it, and any damage caused shall be thoroughly repaired. If so directed by the OWNER, the location of any existing Work shall be changed to meet the requirements of the new utilities or appurtenances or the utilities system may be relocated, if necessary to leave all in good working order. The entire Work shall be performed at no expense to the OWNER.

The CONTRACTOR shall be responsible for all broken mains or utilities encountered during the progress of the Work and shall repair and be responsible for correcting all damages to existing utilities and structures at no additional cost to the OWNER. The CONTRACTOR shall contact the proper utility or authority to correct or make any changes due to utilities or other obstructions during the Work or construction of the utilities system, but the entire responsibility and expense shall be the CONTRACTOR's except as otherwise specified herein.

All damaged items of Work or items required to be removed and replaced due to construction shall be replaced or repaired by the CONTRACTOR to the complete satisfaction of the property OWNER and/or the OWNER, and at no additional expense to the OWNER.

END OF SECTION

DIVISION 1

GENERAL REQUIREMENTS

SECTION 01010

GENERAL DESCRIPTION OF THE WORK

PART 1.00 - GENERAL

1.01 PROJECT SITE(S)

The project site(s) and proposed work is to take place at the facilities owned and operated by the Narragansett Water Division and located within the Town of Narragansett, Rhode Island. The scope of the project is to include the rehabilitation for repair and recoating of two (2) water storage tanks and miscellaneous mechanical improvements at the tank sites. The following locations are incorporated into the work:

- Kinney Avenue 0.750 MG Elevated Tank located off of Old Point Judith Road, Narragansett, RI
- North End 0.50 MG Standpipe located off of Boston Neck Road, Narragansett, RI

1.02 CONSTRUCTION SEQUENCE/SCHEDULE

- A. Contractor shall be responsible for submitting a preliminary progress schedule, preliminary schedule of drawings, and a preliminary schedule of values to the Owner for approval 10 days prior to the commencement of any work. Reference Section 01040 for specific requirements regarding construction schedules.
- B. The sequence and schedule, submitted by the Contractor shall be acceptable to the Owner as providing for an orderly progression of the work to completion. Acceptance of such will not impose on the Owner, responsibility for construction sequencing, schedule or progress of work nor interfere with or relieve Contractor for Contractor's full responsibility thereof.
- C. Schedule of work shall be coordinated by Contractor to:
 - Minimize interference with existing operations.
 - Contractor shall be responsible for scheduling and for integrity of partially completed work during performance of other work on site.
 - It shall be the Contractor's responsibility for damage or disruption to partially completed work, and for repair thereof, during performance of all project work.
- D. The Contractor shall complete all work and return the tanks to functional service on or before October 31, 2016. The North End Tank shall remain fully operational between Memorial Day and Labor Day.
- E. The water storage tanks are critical components of the Town's water system. It is understood that it is unlikely that both tanks would be able to be removed from service at the same time. In addition it must be understood that there are times of the year where these tanks must not be removed from service. The contractor's schedule must take into consideration the operating requirements of the water system and develop their construction schedule accordingly.
- F. The project scope below also provides a series of alternate options for both tanks which will only be selected at the option of the Town. No cost consideration for base bid costs will be dependent on the

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selection of alternate options along with the base bid.

1.03 PROJECT SCOPE

The work on the two tanks consists of a series of basic tasks to rehabilitate the two tanks along with a series of alternate tasks for additional services that the Town will determine whether or not to undertake after the bid is awarded. The contractor shall furnish all labor, equipment, and materials for the proposed work, which includes, but is not limited to the following:

- A. The Contractor shall furnish all labor, equipment, and materials for the proposed work of this project which is described in the Contract Documents and consists of the rehabilitation and recoating of both existing water storage tanks as well as miscellaneous mechanical site and all appurtenances, testing, and all required as described in these specifications and depicted on the drawings; including but not limited to:

Kinney Avenue Tank

1. Coordination with the Narragansett Water Division and Certified Coatings Inspector to be hired by the Town under separate contract to ensure that all work is performed in accordance with all applicable rules and regulations and that proper schedules and permits have been secured.
2. Coordination with the telecommunications company representatives having antenna lease on the subject tank as required to arrange for any protection, removal, relocation, and / or reinstallation of existing cellular telecommunication equipment and appurtenant installations on or adjacent to the tank structure as necessary to accommodate the tank rehabilitation work. See Appendix E for telecommunications company lease agreement and tenant information.
3. A minimum of six (6) pre condition and a minimum of six (6) post condition soil samples shall be collected from the tank site.
4. The Contractor shall coordinate input from all his subcontractors and suppliers in the preparation of the contract schedule.
5. The Contractor shall protect the interior wetted portion of the tank from all possible forms of contamination resulting from the recoating operations including all tank vented enclosures from sand blasting residues.
6. Sandblasting of ***interior condensation surfaces above the condensate ceiling and exterior lead based coatings*** utilizing a Class 1A containment system and applying a new coating system on both interior and exterior of the steel water storage tank. The ***“interior condensation surfaces above the condensate ceiling”*** specifically includes the entire riser column, under side of the tank bowl, top of the condensate ceiling, service platform and roof access tube interior. It excludes the interior non-wetted sides of the fluted column. Proper containment, handling and disposal of all residual waste material. Clean and disinfect the tank and place back into service.
7. For an Alternate cost the Contractor shall also provide the services to de-lead and recoat the interior non-wetted portion of the tank below the condensate ceiling and the interior fluted column walls. These will include all exposed steel areas except those currently covered by wall board for the existing Water Division office space. In this effort the Town will remove all the

office and storage materials in these spaces leaving the walls and ceiling coverings. The contractor shall remove the paint coatings and recoat and be responsible for the final cleaning of these spaces of lead based paint debris so that it can be reutilized for its current uses.

8. For a separate Alternate cost the Contractor shall also provide structural repairs and improvements to tank structure including but not limited to: steel finial vent, roof hatch and cover.
9. Complete temporary electric and phone service relocation to facilitate re-coating operations followed by permanent reconnection of existing electrical and telemetry system in vault or non-wetted interior.
10. All work included within this project shall conform to the plans, specifications, AWWA Standards and local, state and federal agencies having jurisdiction over the project.
11. The Owner must be notified 48 hours in advance of any work that may be planned or required to be performed between the hours of 6:00 PM and 8:00 AM.
12. Work at night, on Saturdays, Sundays, or major holidays will not be permitted without the Owner's written permission except in the case of emergency. If night work is required, the Contractor shall provide at his own expense, all lighting, safety and other facilities necessary for the proper execution of the work.

North End Tank

1. Coordination with the Narragansett Water Division and Certified Coatings Inspector to be hired by the Town under separate contract to ensure that all work is performed in accordance with all applicable rules and regulations and that proper schedules and permits have been secured.
2. Coordination with the telecommunications company representatives having antenna leases on the subject tank as required to arrange for any protection, removal, relocation, and / or reinstallation of existing cellular telecommunication equipment and appurtenant installations on or adjacent to the tank structure as necessary to accommodate the tank rehabilitation work. See Appendix E for telecommunications company lease agreement and tenant information.
3. A minimum of six (6) pre condition and a minimum of six (6) post condition soil samples shall be collected from the tank site.
4. The Contractor shall coordinate input from all his subcontractors and suppliers in the preparation of the contract schedule.
5. Sandblasting of ***interior surfaces and exterior lead based coatings*** utilizing a Class 1A containment system and applying a new coating system on both the interior and exterior of the steel water storage tank. Proper containment, handling and disposal of all residual waste material. Clean and disinfect the tank and place back into service.
6. For a separate Alternate cost the Contractor shall also provide structural repairs and improvements to tank structure including but not limited to: steel finial vent, OSHA handrails, new supports for existing roof ladders, new shell man way, safety handrails at man ways, man

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ways, roof hatch and cover.

7. For an alternate cost the contractor may provide the services to fabricate and install cable tray mounting brackets for telecommunications wires to be reinstalled on the storage tank.
8. Interior and exterior pit welds, seam welds, plate welding, epoxy fill, and incidental structural repairs to steel tank per direction of onsite representative.
9. Complete temporary electric and phone service relocation to facilitate re-coating operations followed by permanent reconnection of existing electrical and telemetry system in vault or non-wetted interior.
10. All work included within this project shall conform to the plans, specifications, AWWA Standards and local, state and federal agencies having jurisdiction over the project.
11. The Owner must be notified 48 hours in advance of any work that may be planned or required to be performed between the hours of 6:00 PM and 8:00 AM.
12. Work at night, on Saturdays, Sundays, or major holidays will not be permitted without the Owner's written permission except in the case of emergency. If night work is required, the Contractor shall provide at his own expense, all lighting, safety and other facilities necessary for the proper execution of the work.

1.04 CONTRACT DRAWINGS AND SPECIFICATIONS – INTENT

- A. The contract drawings and specifications are intended to compliment each other and all work called for by either shall be as binding as if called by both. The contractor shall thoroughly acquaint himself with all the requirements of the specifications and contract drawings.

1.05 OBLIGATIONS OF THE CONTRACTOR

- A. The Contractor shall furnish all labor, materials, supplies, equipment, tools and all other facilities necessary to the proper and complete construction of the project, as required by the contract drawings and as specified herein. Throughout the contract, wherever it is specified that work is to be done, or labor, materials or equipment are to be furnished, it is understood to mean that the said work to be done or the labor, materials, or equipment to be furnished is to be supplied or done by the Contractor at his own proper cost or expense.

1.06 ERRORS AND/OR DISCREPANCIES

- A. The Contractor shall verify all quantities and measurements shown on the contract drawings or called for in the specifications and shall notify the Owner of all discrepancies, errors or omissions found therein. The Contractor shall notify the Owner immediately of any apparent ambiguity, error or omission in the contract drawings or specifications. The failure to correctly or specifically mention or note any portion of the work, the proper performance of which is evidently necessary to fulfill the general intention of the contract drawings, and specifications, shall not act to release the Contractor from the proper performance of such work in the identical manner as if fully and correctly indicated and without expense to the Owner beyond the stipulated contract price or prices. The foregoing shall not apply to additions, improvements or changes for which provisions have been otherwise made.

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1.07 PERMITS AND LICENSES

- A. The Contractor shall secure and pay for all permits and licenses necessary for the prosecution of the work and give such notices, comply with all laws, ordinances, rules or regulations having bearing on the conduct of the work. The Contractor shall indemnify the Owner, its officers and agents against any claim or liability arising from failure to comply with such rules, laws, or ordinances by himself, his employees or Subcontractors.

1.08 CONTRACTOR'S RESPONSIBILITIES

A. Mutual Responsibility:

1. If other Contractors or Subcontractors suffer loss or damage to their work through acts of neglect on part of General Contractor, then General Contractor agrees to satisfactorily arrange for settlement with other such Contractor or Subcontractors if other such Contractor or Subcontractor will so settle.
2. If, however, such other Contractor or Subcontractor chooses to assert claim against Owner, on account of damage alleged to have been sustained, Owner shall notify Contractor, who shall defend, at his expense, any suit based on such claims, and, if judgment or claims against owner shall be allowed, Contractor shall pay or satisfy such judgment or claims, and pay costs and expenses in connection with same.

B. Legal Address of the Contractor:

1. Both the address given in the bid or proposal submitted by the Contractor and the Contractor's office at or near the site of the work are hereby designated as places to either of which notices, letters, and other communications to the Contractor shall be certified, mailed or delivered. The delivering at the above-named place, or depositing in a postpaid wrapper directed the first-named place, in any post office box regularly maintained by the Post Office Department, or any notice, letter or other communication to the Contractor, shall be deemed sufficient service thereof upon the Contractor and the date of said service shall be the date of such delivery or mailing.
2. The first-named address may be changed at any time by an instrument in writing, executed and acknowledged by the Contractor and delivered to the Owner. Nothing herein contained shall be deemed to preclude or render inoperative the service of any notice, letter or other communication upon the Contractor personally.

- C. The Contractor shall be responsible for maintaining operation of all roadways to vehicular and pedestrian traffic.
- D. All disruptions in production and delivery of potable water supply and removing tanks from service shall be coordinated with the owner and the owner's on-site representative and shall be kept to a minimum.
- E. All temporary arrangements employed by the Contractor for the production, delivery and storage of potable water shall be in accordance with general acceptable sanitary and health codes and standards and in accordance with requirements of the State Department of Health.

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- F. Contractor shall notify and make proper application of permit request to all appropriate local, state and federal agencies prior to beginning any work on the project.

1.09 EMPLOYEES OF THE CONTRACTOR

- A. The Contractor shall employ a competent, experienced superintendent and foreman to represent him at the several parts of the work. These men shall be present at all times while the work entrusted to them is in progress and shall be fully informed regarding it. The superintendent shall be satisfactory to the Owner and shall represent and have full authority to act for the Contractor in his absence. All other men employed on the work shall be competent and skillful men.

1.10 GENERAL PROTECTIVE MEASURES

- A. The Contractor shall, at his own expense, protect all work completed or partially completed under this contract and shall be solely responsible for the care and protection of all materials covered by this contract. Damage, loss or injury from any cause whatsoever shall be made good by the Contractor at his own expense. The method of providing against such damage, loss or injury is left to the discretion of the Contractor. All damaged work must be replaced to the satisfaction of the Owner at no cost to the Owner.

1.11 GENERAL SAFETY PRECAUTIONS

- A. The Contractor shall take all necessary precautions to conduct his operations in such a manner so as to provide maximum possible safety for all employees on the work and the public as well. The Contractor shall provide suitable barricades, bridges, railings and similar protection around and over excavations and open trenches so as to insure maximum protection. All State and Federal Laws applicable to the work shall receive compliance, including, but not limited to, the latest amendments of the following:
 - 1. Williams-Steiger Occupational Safety and Health Act of 1970, Public Law 91-596;
 - 2. Part 1926 - Occupational Safety and Health Standards for construction industry 29 CFR 1926.11910;
 - 3. Part 1518 - Safety and Health Regulations for Labor 29CFR 1518.
- B. This project, the Contractor and his Subcontractors shall, at all times, be governed by 29 CFR and OSHA Safety and Health Standards (29 CFR 1926.11910).
- C. The Contractor shall designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated in writing by the Contractor to the Owner.

1.12 "DIG-SAFE" DAMAGE PREVENTION SYSTEM

- A. All Contractors or Subcontractors performing drilling, boring, auguring, jetting, sheeting or pile installation, soil preloading for consolidation, demolition, excavation or like work shall, prior to commencement of these activities, contact utility companies having responsibility for underground transmission systems for information relative to locations of existing underground

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utilities and/or an appropriate dig safe damage prevention and notification agency.

1.13 WEATHER CONDITIONS

- A. No work shall be done when in the opinion of the Owner's authorized representative that the weather is unsuitable for the type of work envisioned. In no instance shall concrete, earth backfill, paving or embankment be placed upon frozen material. The Contractor shall be responsible for the protection of all completed or partially completed work as a result of extreme weather conditions. The Contractor shall make himself fully aware of the extremes of weather conditions in the area in regards to the depth of snowfall and the degree and length of sub-freezing temperatures during the winter season. If there is a delay or interruption in the work due to weather conditions, the necessary measures must be taken to bond new work to old. Only such work as will not suffer injury to workmanship or materials will be permitted in inclement weather.
- B. Should tornado, hurricane, gale or heavy wind warnings be issued, take every practicable precaution to minimize the damage to persons, to the work and to the adjacent property. Such damage caused to any part of the work shall be rectified or replaced to the complete satisfaction of the Owner and at no expense to the Owner. Injury to personnel or damage to adjacent property because of the work shall be the complete responsibility of the Contractor, and he accepts exclusive liability for same.

1.14 LOADING

- A. No part of any work involved in this contract shall be loaded during construction with a load greater than it is calculated to cant' with safety. Should any accidents or damage occur through any violation of this requirement, the Contractor shall be held responsible under his contract and bond.

1.15 PARTIAL OCCUPANCY

- A. The Owner shall have the right to take possession of or use any part of the completed or partially completed work prior to final acceptance.
- B. Prior to incremental occupancy, Owner will give notice thereof to Contractor, and such occupancy shall be upon the following terms:
 - 1. The general guarantee period, called for in General Conditions, for work substantially completed shall not begin to run until issuance of certificate by the Owner.
 - 2. The occupancy or use of any area shall not constitute acceptance of work not performed in accordance with the contract, nor relieve Contractor of liability to perform any work required by contract but not completed at time of said occupancy.
 - 3. Contractor shall be relieved of all maintenance costs on portions occupied under this agreement.
 - 4. Contractor shall not be responsible for wear and tear or damage resulting from said occupancy.
 - 5. Owner shall assume risk of loss with respect to any portion occupied by it under the terms of

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this agreement; Contractor shall assume full responsibility for loss or damage traceable to his fault or negligence in the performance of his contract.

1.16 MATERIALS AND WORKMANSHIP

- A. All work shall be done in a neat, workmanlike manner. All materials, equipment and workmanship shall fully conform to the requirements of the contract documents and shall be in every respect in accordance with the best modern practice. All materials and equipment shall be new and of standard first-grade quality and design. Materials and equipment shall be assembled and erected in a neat, workmanlike manner and in proper level and alignment.

1.17 OTHER REQUIREMENTS

- A. Existing Utilities and Structures:
 - 1. Contractor shall be responsible for injury to water pipes, electrical wires, conduits, drains, sewers, buildings, and other structures, which may be met within prosecution of the work, owned by individuals, by firms or corporations, or by the municipality. Contractor shall be liable for damages to public or private property resulting there from.
 - 2. Shore or sling up in their places, without injury, water pipes, electrical conduits and other structures. Maintain them in constant operation except as may be required to connect and disconnect from them.

PART 2.00 - PRODUCTS

2.01 MATERIALS

- A. All materials, supplies or equipment incorporated into the work shall be new and shall conform to the requirements of the applicable sections of these specifications.

PART 3.00 - EXECUTION

- 3.01 The General Contractor and subcontractors performing work under this contract shall execute such work in a professional manner, consistent with the industry's standards for quality workmanship.

END OF SECTION

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SECTION 01015

CONTRACTOR'S USE OF THE PREMISES

PART 1.00 GENERAL

1.01 DESCRIPTION

- A. Extent of Work: This Section applies to situations in which the Contractor or his representatives including, but not necessarily limited to, suppliers, subcontractors, employees, and field engineers, enter upon the Owner's property.
- B. Related Work Specified Elsewhere: Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, Special Conditions and Sections of these Specifications.

1.02 QUALITY ASSURANCE

- A. Promptly upon award of the Contract, notify all pertinent personnel regarding requirements of this section.
- B. Require that all personnel who will enter upon the Owner's property certify their awareness of and familiarity with the requirements of this Section.

1.03 TRANSPORTATION FACILITIES

- A. Truck and Equipment Access:
 - 1. Where materials are transported in the execution of the Work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer for the vehicle or prescribed by any Federal, State or Local law or regulation.
 - 2. Provide adequate protection for curbs and sidewalks over which trucks and equipment pass to reach the job site. Any damaged roads, bridges, structures, curbing, or sidewalks shall be repaired by, or at the expense of the Contractor.
- B. Contractor's Vehicles:
 - 1. Require Contractor's vehicles and vehicles belonging to employees of the Contractor or leased by the Contractor or subcontractor, and all other vehicles entering upon the Owner's property in performance of the Work of the Contract, to use only the access routes designated by the Owner.

1.04 NONEXCLUSIVE USE

- A. Nothing herein contained or shown on the Drawings shall be construed as giving the Contractor exclusive occupancy of the work area. The Owner or any other contractors employed by him, the various utility companies, contractors or subcontractors employed by State or Federal agencies, or any other agencies involved in the general project or upon public rights-of-way, may enter upon or

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cross the area of work or occupy portions of the area as is directed or necessary.

- B. The Owner reserves the right to do any other work which may be connected with, or become a part of, or be adjacent to the work embraced by this Contract, at any time, by contractor or otherwise. The Contractor shall not interfere with the work of such others as the Owner may employ, and shall execute his own work in such a manner as to aid in the execution of the work of others as may be required.
- C. When the territory of one contract is the convenient means of access to the other, the Contractor shall arrange his working in such a manner as to permit such access to the other and prevent unnecessary delay to the work as a whole.

1.05 FACILITY REGULATIONS

- A. The Contractor and his employees and subcontractor shall become familiar with and obey all facility regulations, including fire, traffic, and security regulations. All personnel employed on the grounds shall keep within the limits of the work (and avenues of ingress and egress) and shall not enter any restricted areas unless required to do so and are cleared for such entry. The Contractor's equipment shall be conspicuously marked for identification.

1.06 WORKING HOURS

- A. **Regular working hours shall consist of an 8-hour period established between 8:00 A.M. and 6:00 P.M., Monday through Friday, excluding Saturday, Sunday and holidays.** The Contractor shall make application for work outside regular working hours 5 calendar days prior to such work in accordance with the paragraph entitled "Work Outside Regular Hours".

1.07 WORK OUTSIDE REGULAR HOURS

- A. If the Contractor desires to carry on work outside regular hours, including Saturdays, Sundays, and holidays, an application shall be delivered to the Owner and Engineer. The Contractor shall allow ample time to enable satisfactory arrangements to be made by the Engineer for inspecting the work in progress. During periods of darkness, the different parts of the work shall be lighted in a manner approved by the Engineer. All utility cutovers shall be made through coordination with Owner's on-site representative. Contractor shall be responsible for payment of all overtime costs for personnel of Owner, onsite representative and Engineer associated with work outside regular hours.

1.08 ORDER OF WORK

- A. The Contractor shall schedule his work so as to cause the least amount of interference with facility operations. Permission to interrupt any roads, and/or utility service shall be requested in writing a minimum of 5 calendar days prior to the desired date of interruption.

1.09 EXISTING WORK

- A. The removal or altering in any way of existing work shall be carried on in such a manner as to prevent injury or damage to any portion(s) of the existing work which remain(s).

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- B. All portions of existing work which have been altered in any way during construction operations shall be repaired or replaced in kind and in a manner to match existing or adjoining work, as approved by the Engineer. All work of this nature shall be performed by the Contractor at the Contractor's expense and shall be performed as directed by the Engineer. At the completion of all operations, existing work shall be in a condition equal to or better than that which existed before the new work started.

1.10 SANITATION

- A. Adequate sanitary conveniences of a type approved for the use of persons employed on the work shall be constructed, properly secluded from public observation, and maintained by the Contractor in such a manner as required or approved by the Engineer. These conveniences shall be maintained at all times without nuisance. Upon completion of the work, the conveniences shall be removed by the Contractor from the premises, leaving the premises clean and free from nuisance.

1.11 SAFETY

- A. Contractor is solely responsible for site safety on all project related matters. Contractor shall comply with all applicable federal, state and local laws, ordinances, rules and regulations and lawful orders of all authorities having jurisdiction for the safety of persons and protection of property.

1.12 TEMPORARY UTILITIES AND SERVICES

- A. Electric power, water and telephone service are not available at the site through Owner. Contractor is responsible and shall pay all fees required for any temporary services required. All connections shall be performed in accordance with applicable codes.

END OF SECTION

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SECTION 01019

CONTRACT CONSIDERATIONS

PART 1.00 - GENERAL

1.01 SECTION INCLUDES

- A. Inspection and Testing
- B. Application for Payment
- C. Change Procedures

1.02 INSPECTION AND TESTING

- A. The Contractor shall pay all costs of engaging an inspection or testing firm, execution of inspection or tests, and reporting results.
- B. Costs Included and Payment Schedule:
 - 1. Incidental labor and facilities required to assist inspection or testing firm.
 - 2. Costs of testing laboratory services required by the Contractor separate from Contract Document requirements.
 - 3. Costs of retesting upon failure of previous tests as determined by Owner.
 - 4. Submit three (3) copies of the inspection or testing firm's invoice with next application for payment.
 - 5. Pay invoice on approval by Owner.

1.03 APPLICATIONS FOR PAYMENT

- A. Submit three copies of each application on EJCDC 1910-8-E. See Section 01152 - Application for Payment Form.
- B. For each item, provide a column listing: Item Number; Description of Work; Scheduled Value; Previous Applications; Work in Place and Stored Materials under this Application; Authorized Change Orders; Total Completed and Stored to Date of Application; Percentage of Completion; Balance to Finish; and Retainage.
- C. Present required information in typewritten form and execute certification by signature of authorized officer.
- D. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored products.
- E. List each authorized Change Order as an extension on continuation sheet, listing Change Order number and dollar amount as for an original item of work.

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1.04 CHANGE PROCEDURES

- A. The Owner will advise of minor changes in the work not involving an adjustment to Contract Sum/Price or Contract Time, as authorized by the Owner, by issuing written supplemental instructions.
- B. The Owner may issue a Notice of Change which includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid. Contractor will prepare and submit an estimate within seven (7) days.
- C. The Contractor may propose a change by submitting request for change to the Owner, describing the proposed change and its full effect on the work. Include a statement describing the reason for the change, and the effect on the Contract Sum/price and Contract Time with full documentation and a statement describing the effect on work by separate or other contractors. No change will be allowed except under written approval and Notice of Change of the Owner, verbal orders are not binding.
- D. Stipulated Sum/Price Change Order: Based on Notice of Change and Contractor's estimated price quotation.
- E. Unit Price Change Order: For pre-determined unit prices and quantities, the Change Order will be executed on a fixed unit price basis. For unit costs or quantities of units of work, which are not pre-determined, execute work under a Work Directive Change. Changes in Contract Sum/Price or Contract Time will be computed as specified for Time and Material Change Order.
- F. Time and Material Change Order: Submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract. The Owner will determine the change allowable in Contract Sum/Price and Contract Time as provided in the Contract Documents.
- G. Maintain detailed records of work done on Time and Material basis. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the work.
- H. Execution of Change Orders: The Owner will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

END OF SECTION

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SECTION 01039

COORDINATION AND MEETINGS

PART 1.00 - GENERAL

1.01 SECTION INCLUDES

- A. Coordination
- B. Field Engineering
- C. Alteration Project Procedures
- D. Cutting and Patching
- E. Preconstruction Conference
- F. Progress Meetings

1.02 COORDINATION

- A. Coordinate scheduling, submittals, and work of the various sections of specifications to assure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Install equipment and materials and structures as shown, as closely as practicable. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- C. Coordinate completion and cleanup of work of separate sections in preparation for Substantial Completion.

1.03 FIELD ENGINEERING

- A. The Contractor shall provide all field engineering required to complete work as specified in the Contract Documents.
- B. Contractor to locate and protect survey control and reference points.
- C. Control datum for survey is that shown on drawings.
- D. Provide field engineering services. Establish elevations, lines and levels, utilizing recognized engineering survey practices.

1.04 PRECONSTRUCTION MEETING

- A. The Owner shall schedule a conference after award.
- B. Schedule within fifteen (15) days after date of notice to proceed.
- C. Location: A central site, convenient for all parties, designated by Owner.
- D. Attendance:

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1. Owner or representative.
2. Engineer and his professional consultants.
3. Resident project representative.
4. Contractor's superintendent.
5. Major Subcontractors.
6. Major Suppliers
7. Others as appropriate.

E. Agenda:

1. Distribution and discussion of:
 - a. Execution of Owner Contractor Agreement
 - b. Submission of executed bonds and insurance certificates
 - c. Distribution of Contract Documents
 - d. List of major Subcontractors and suppliers.
 - e. Project construction schedules.
2. Critical work sequencing.
3. Major equipment deliveries and priorities.
4. Project coordination.
 - a. Designation of responsible personnel.
5. Procedures and processing of:
 - a. Field decisions.
 - b. Proposal requests.
 - c. Submittals
 - d. Change Orders
 - e. Applications for Payment
6. Adequacy of distribution of contract documents.
7. Procedures for maintaining record documents (by Resident Engineer).
8. Use of Premises:
 - a. Office, work and storage areas.
 - b. Owner's requirements
9. Construction facilities, controls and construction aids.
10. Temporary utilities.
11. Safety and first-aid procedures.
12. Security procedures.
13. Housekeeping procedures.
14. Place, date and time for regular progress meetings.

1.05 PROGRESS MEETINGS

- A. Owner shall schedule and administer periodic progress review meetings and specially called meetings throughout progress of the work. Owner shall:
1. Prepare agenda for meetings.
 2. Distribute written notice of each meeting three (3) days in advance of meeting date.
 3. Make physical arrangements for meetings.
 4. Preside at meetings.
 5. Record the minutes: Include significant proceedings and decisions.

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6. Reproduce and distribute copies of minutes within three (3) days after each meeting.
 - a. To participants in the meeting.
 - b. To parties affected by decisions made at the meeting.
 - c. Furnish three (3) copies of minutes to Owner.
- B. Representatives of Contractors and suppliers attending meeting shall be qualified and authorized to act on behalf of the entity each represents.
- C. Owner will attend project meetings to ascertain that work is expedited consistent with contract documents and construction schedules.
- D. Conduct regular scheduled progress meetings at place, dates and times agreed upon at preconstruction meeting.
- E. Conduct additional meetings as progress of the work dictates.
- F. Attendance:
 1. Engineer, and his professional consultants as needed.
 2. Owner or representative when required.
 3. Contractor's superintendent.
 4. Subcontractors as appropriate to the agenda.
 5. Suppliers as appropriate to the agenda.
 6. Others.
- G. Suggested Agenda:
 1. Review, approval of minutes of previous meeting.
 2. Review of work progress since previous meeting.
 3. Field observations, problems, conflicts.
 4. Problems which impede construction schedule.
 5. Corrective measures and procedures to regain projected schedule.
 6. Revisions to construction schedule.
 7. Progress, schedule, during succeeding work period.
 8. Coordination of schedules.
 9. Review submittal schedules; expedite as required.
 10. Maintenance of quality standards.
 11. Pending changes and substitutions.
 12. Review proposed changes for:
 - a. Effect on construction schedule and on completion date.
 - b. Effect on other contracts of the project.
 13. Other business.

END OF SECTION

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SECTION 01040

CONSTRUCTION SCHEDULES

PART 1.00 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Within ten (10) days after award of the contract, prepare and submit to Owner estimated construction progress schedules for the work, with subschedules, if required, of related activities, which are essential to its progress.
- B. Submit revised progress schedules with the submission of each payment request.

1.02 FORM OF SCHEDULES

- A. Prepare schedules in the form of a horizontal bar chart.
- B. Provide a separate horizontal bar for each item of work that matches verbatim the breakdown of the contract price toward partial payments will be made to the Contractor.
- C. Horizontal Time Scale: Identify the first workday of each week.
- D. Scale and Spacing: To allow space for notations and future revisions.
- E. Minimum Sheet Size: 11" by 17".

1.03 CONTENTS OF SCHEDULES

- A. Construction Progress Schedule: Include the following:
 - 1. The name of the project and name and address of the Contractor.
 - 2. The name and address of the Owner.
 - 3. Date indicating the end of the construction period being reported.
 - 4. Legend showing a solid line representing estimated construction and a dotted line representing actual construction.
 - 5. Columns showing the percentage of the total contract of each item, the percentage of completion to date of each item and the weighted percentage of completion of each item to the project as a whole.
 - 6. Starting and completion dates of the contract.
 - 7. Project percentage of completion for each item, as of the first day of each month.
- B. Submittals Schedule for Shop Drawings, Product Data and Samples: Show the following:
 - 1. The dates for Contractor's submittals.
 - 2. The dates reviewed submittals will be required from the Owner.

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1.04 MONTHLY PROGRESS REPORTS

- A. Indicate progress of each activity to date of submission.
- B. Show changes occurring since previous submission of schedule:
 - 1. Major changes in scope.
 - 2. Activities modified since previous submission.
 - 3. Revised projects of progress and completion.
 - 4. Other identifiable changes.
- C. Provide a narrative report as needed to define:
 - 1. Problem areas, anticipated delays, and the impact on the schedule.
 - 2. Corrective action recommended, and its effect.
 - 3. The effect of changes on schedules of other prime Contractors.

1.05 SUBMISSIONS

- A. Submit initial schedules within fifteen (15) days after award of contract.
 - 1. Owner will review schedules and return review copy within ten (10) days after receipt.
 - 2. If required, resubmit within seven (7) days after return of review copy.
- B. Submit revised progress schedules with each application for payment.
- C. Submit the number of opaque reproductions, which the Contractor requires, plus two (2) copies and one (1) reproducible transparency, which will be retained by the Owner.

1.06 DISTRIBUTION

- A. Distribute copies of the reviewed schedules to:
 - 1. Jobsite file.
 - 2. Subcontractors.
 - 3. Other concerned parties.
- B. Instruct recipients to report promptly to the Contractor, in writing, any problems anticipated by the projections shown in the schedules.

END OF SECTION

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SECTION 01150

MEASUREMENT AND PAYMENT

PART 1.00 - GENERAL

1.01 SUMMARY

- A. This section describes the measurement of and the payment for the work to be performed under the Bid.

1.02 UNIT QUANTITIES

- A. Quantities indicated in the Bid Proposal are for bidding and contract purposes only. The Owner will determine quantities.
- B. If the actual work requires more or fewer quantities than those indicated, the Contractor will not be entitled to any adjustments in the Unit Bid Price as indicated in the Bid Proposal.
- C. Whenever the estimated quantities of Work to be done and materials to be furnished under this Contract are shown in any of the documents including the Bid Proposal, they are given for use in comparing bids and the right is especially reserved by the Owner to increase or diminish them as may be deemed necessary or desirable by the Owner. Such increases or decreases shall in no way affect this Contract, nor shall any such increases or decreases give cause for claims or liabilities for damages.

1.03 MEASUREMENT OF QUANTITIES

- A. Volume will be determined by using the mean length, width and height or thickness.
- B. Area will be determined by using the mean length, width or radius.
- C. Length will be determined by measuring along the horizontal projection of the centerline.
- D. The Owner shall determine the appropriate method for measuring and computing each quantity and for estimating the sums due for the various kinds of work and material, using such methods, tools and degrees of precision as are suitable for the particular measurement, item or computation. When required by the Owner, assistance in measuring or determining quantities shall be provided by the Contractor by furnishing the help of personnel on the site by furnishing copies of invoices or by other means.

1.04 PRICES INCLUDE

- A. The prices stated in the Proposal include full compensation for:
 - 1. Furnishing all the labor, equipment and material needed for, and for performing the work and building the structures contemplated by the Contractor and also for assuming all risks of any kind for expenses arising by reason of the nature of the soil, ground water, or the action of the

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elements.

2. All excavation and backfill.
3. The removal of and delay or damage occasioned by trees, stumps, tracks, pipes, ducts, timber, masonry or other obstacles.
4. Removing, protecting, repairing, or restoring, without cost to Owner, all pipes, ducts, drains, sewers, culverts, conduits, curbs, gutters, walks, fences, tracks, or other obstacles, road pavements and other ground surfacing, whether shown on plans or not, for draining, damming, pumping, or otherwise handling and removing without damage to the work or to other parties, and without needless nuisance, all water or sewage from whatever source which might affect the work or its progress, or be encountered in excavations made for the work.
5. Furnishing, inserting and removing all sheeting, shoring, staging, cofferdams, etc.
6. All signs, fencing, lighting, watching, guarding, temporary surfacing, bridging, snow removal, etc. necessary to maintain and protect travel on streets, walks and private ways.
7. Making all provisions necessary to maintain and protect buildings, fences, poles, trees, structures, pipes, ducts, and other public or private property affected or endangered by the work.
8. The repair or replacement of such things if injured by neglect of such provisions for removing all surplus or rejected materials as may be directed.
9. Replacing, repairing and maintaining the surfaces of streets, highways, public and private lands if and where disturbed by work performed under the Contract or by negligence in the performance of work under the Contract.
10. Furnishing of filling materials in case of any deficiency or lack of suitable materials.
11. Obtaining all permits and licenses and complying with the requirements thereof, including the cost of furnishing any security needed in connection therewith.
12. Any and all expenses on account of the use of any patented device or process.
13. Protection against inclement or cold weather. Containment structures necessary to maintain adequate environmental controls to complete the Work.
14. All expenses incurred by or on account of the suspension, interruption or discontinuance of the work.
15. The cost of the surety bond and adequate insurance.
16. All taxes, fees, union dues, etc. for which the Contractor may be or become liable arising out of his operations incidental to the Contract.

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17. Equipment on the site and away there from.
 18. Tools, implements and equipment required to build and put into good working order all work contemplated by the Contract and maintaining and guaranteeing the same as provided.
 19. Fulfilling all obligations assumed by the Contractor under the Contract and its related documents.
- B. The Owner shall pay and the Contractor shall receive the prices stipulated in the Bid Proposal made a part hereof as full compensation for everything performed and for all risks and obligations undertaken by the Contractor under and as required by the Contract.
 - C. The prices for those items, which involve excavation, shall include compensation for removal and disposal of surplus excavated material, handling water, and installation of all necessary sheeting, shoring and bracing.
 - D. In all items involving excavation, the price shall be based on doing the entire excavation in earth. Where rock is excavated, the price, therefore, shall be in addition to the cost of excavating earth and no deduction will be made in the amount for earth excavation.
 - E. The prices for all pipe items shall constitute full compensation for furnishing, laying, jointing and testing; earth excavation, backfill and compaction; materials for bedding pipe as specified; and cleaning up.
 - F. Items of work shown on the drawings or specified or required to complete the work but not listed separately under the list of bid items in the Bid Proposal shall be included in the cost of payment under the various applicable bid items of work and no separate payment will be made for such items. It shall be the responsibility of the Contractor to verify any missing or incomplete items.
 - G. All damaged or disturbed items of work, or items required to be removed and replaced due to construction purposes and operations that are not listed in the Bid Proposal, shall be restored, replaced or repaired by the Contractor in a manner satisfactory to the Owner, at no additional expense to the Owner.

1.05 UNIT PRICES AND LUMP SUM PRICES:

- A. Each unit or lump sum price stated in the Bid shall constitute full compensation for all labor, equipment, materials, and all incidental and appurtenant work required or necessary to satisfactorily complete the work in accordance with contract documents and specifications.
- B. Payment for unit prices will be computed on the basis of the unit price bid in the Bid Proposal for each item, and the quantity of units completed.
- C. Payment for lump sum prices will be computed on the basis of the percentage of work completed on each item in the Contract Bid Proposal. The Contractor's breakdown submitted to the Owner of the lump sum bid items will be used only as a guide to determine percentage of completion.

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PART 2.00 – PRODUCTS

2.01 KINNEY AVENUE WATER STORAGE TANK

BASE BID ITEMS

- A. 1.01 – Mobilization & Demobilization, Bonds & Insurance, General Conditions: The unit bid item shall be measured as lump sum and payment shall be made in accordance with the unit price bid and shall constitute full compensation for construction facilities, pre and post monitoring and testing at the project site (including a minimum of 6 pre condition and a minimum of 6 post condition soil samples), contract general conditions, construction trailers, preparation of site for access, coordination with telecommunications system authorized representatives (as detailed in Section 13850 – Cellular Antenna Equipment Work and Coordination and Appendix E – Telecommunications Company Lease Agreement and Tenants), temporary construction controls (not including tank containment system) and storage of materials, including set-up of all equipment and staging areas, and for all incidental work required for completion of the work specified herein and included on the contract drawings, **payment for this item shall not exceed \$10,000.00 per tank.**
- B. 1.02 – Prepare & Recoat Exterior Surfaces, Class 1A Containment: The unit bid item shall be measured as lump sum and payment shall be made in accordance with the unit price bid and shall constitute full compensation for sandblasting and preparation of exterior surface containing lead paint, tank containment system and all environmental controls and permitting, environmental controls including heat and dehumidification, industrial hygiene and reporting, recyclable grit or waste minimization additive, furnishing and applying new coating system, coordination with utility companies and telecommunication companies (aside from efforts described in item 1.01), waste characterization and disposal, and all other incidentals as required herein and as shown on the drawings.
- C. 1.03 – Miscellaneous Concrete Foundation Repairs: The unit bid item shall be measured as lump sum and payment shall be made in accordance with the unit price bid and shall constitute full compensation for the furnishing and installation of grout to the extent needed in space between tank floor plate extension lip and concrete foundation including cleaning and complete removal of existing sealant, grout, debris, and vegetation, surface preparation, material and equipment for installation and all necessary materials, labor, plant, equipment and tools and incidental work, and all other required appurtenances as shown on the plans and described in the specifications.
- D. 1.04 – Prepare & Recoat Interior Condensation Interior Surfaces: The unit bid item shall be measured as lump sum and payment shall be made in accordance with the unit price bid and shall constitute full compensation for sandblasting and preparation of non-wetted interior condensation surfaces including entire riser column (interior and exterior), underside exterior of tank bowl, top surface of condensate ceiling, service platform and roof access tube interior containing lead paint, tank containment system and all environmental controls and permitting, environmental controls including heat and dehumidification, industrial hygiene and reporting, recyclable grit or waste minimization additive, furnishing and applying new coating system, waste characterization and disposal, cleaning, recoating of appurtenances, disinfection and sampling and testing of storage tank and return to service, and all other incidentals as required herein and as shown on the drawings.
- E. 1.05 – Clean Foundation & Apply Epoxy Resin Concrete Penetrating Sealer: The unit bid item shall

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be measured as lump sum and payment shall be made in accordance with the unit price bid and shall constitute full compensation for brush blasting, power or needle blasting all the concrete to a level 16-inches below grade, removal of vegetation and debris, deteriorated concrete surface preparation, material and equipment for installation of concrete, grout, penetrating sealer, labor, plant, equipment and tools and incidental work; and all other required appurtenances as shown on the plans and described in specifications.

- F. 1.06 – Repair & Refurbish Anchor Bolts, Nuts & Chair Assemblies: The unit bid item shall be measured as each and payment shall be made in accordance with the unit price bid and shall constitute full compensation for the repair and refurbishment of anchor bolts, nuts and chair assemblies, including surface preparation, material, application and installation and all necessary materials, labor, plant, equipment and tools and incidental work; and all other required appurtenances as shown on the plans and described in the specifications.
- G. 1.07 – Miscellaneous Electrical Work: The unit bid item shall be measured as lump sum and payment shall be made in accordance with the unit price bid and shall constitute full compensation for the removal and reinstallation of all electrical components as necessary to facilitate the required tank coating and rehabilitation activities in accordance with all applicable electrical codes. Any required permits shall be the responsibility of the painting contractor.

ADD/ALTERNATE BID ITEMS (THESE ITEMS MAY BE AWARDED AT THE DISCRETION OF THE OWNER AND SHALL NOT BE INCLUDED IN THE BASE BID)

- A. A1.01 – Prepare & Recoat Non-Wetted Interior Surfaces (Below Condensate Ceiling): The unit bid item shall be measured as lump sum and payment shall be made in accordance with the unit price bid and shall constitute full compensation for sandblasting and preparation of accessible non-wetted interior surfaces below condensate ceiling containing paint (including lead based paint), tank containment system and all environmental controls and permitting (including protecting and cleaning areas to address lead paint removal), environmental controls including heat and dehumidification, industrial hygiene and reporting, recyclable grit or waste minimization additive, furnishing and applying new coating system, waste characterization and disposal, cleaning, recoating of appurtenances, disinfection and sampling and testing of storage tank and return to service, and all other incidentals as required herein and as shown on the drawings.
- B. A1.02 – Clean & Recoat Interior Non-Wetted Interior Surfaces (Above Condensate Ceiling): The unit bid item shall be measured as lump sum and payment shall be made in accordance with the unit price bid and shall constitute full compensation for sandblasting and preparation of interior condensation surfaces above condensate ceiling including interior walls of fluted column containing paint (including lead based paint), tank containment system and all environmental controls and permitting, environmental controls including heat and dehumidification, industrial hygiene and reporting, recyclable grit or waste minimization additive, furnishing and applying new coating system, waste characterization and disposal, cleaning, recoating of appurtenances, disinfection and sampling and testing of storage tank and return to service, and all other incidentals as required herein and as shown on the drawings.
- C. A1.03 – Clean & Recoat Valve Vault Piping: The unit bid item shall be measured as lump sum and payment shall be made in accordance with the unit price bid and shall constitute full compensation for cleaning, preparing and repainting the drain piping in the valve chamber including piping in void

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space directly under tank, protection of existing instrumentation, relocating existing instrumentation, and all other incidentals as required herein and as shown on the drawings.

- D. A1.04 – Furnish & Install Clog-Resistant Roof Vent: The unit bid item shall be measured as lump sum and payment shall be made in accordance with the unit price bid and shall constitute full compensation for removal and disposal of existing vent, furnishing & installation of a clog-resistant steel vent in accordance with AWWA D100 Standard including surface preparation, material, application and installation and all necessary materials, labor, plant, equipment and tools, welding, and incidental work; and all other required appurtenances as shown on the plans and described in the specifications. Surface preparation and coating of new steel flange shall be included under Prepare & Recoat Exterior Surfaces item.
- E. A1.05 – Electrical Work Associated with Completion of Add/Alternate Items: The unit bid item shall be measured as lump sum and payment shall be made in accordance with the unit price bid and shall constitute full compensation for the removal and reinstallation of all electrical components as necessary to facilitate the work associated with the add/alternate bid items in accordance with all applicable electrical codes. Any required permits shall be the responsibility of the painting contractor.

2.02 NORTH END WATER STORAGE TANK

BASE BID ITEMS

- A. 2.01 – Mobilization & Demobilization, Bonds & Insurance, General Conditions: The unit bid item shall be measured as lump sum and payment shall be made in accordance with the unit price bid and shall constitute full compensation for construction facilities, pre and post monitoring and testing at the project site (including a minimum of 6 pre condition and a minimum of 6 post condition soil samples), contract general conditions, construction trailers, preparation of site for access, coordination with telecommunications system authorized representatives (as detailed in Section 13850 – Cellular Antenna Equipment Work and Coordination and Appendix E – Telecommunications Company Lease Agreement and Tenants), temporary construction controls (not including tank containment system) and storage of materials, including set-up of all equipment and staging areas, and for all incidental work required for completion of the work specified herein and included on the contract drawings, **payment for this item shall not exceed \$10,000.00 per tank.**
- B. 2.02 – Prepare & Recoat Exterior Surfaces, Class 1A Containment: The unit bid item shall be measured as lump sum and payment shall be made in accordance with the unit price bid and shall constitute full compensation for sandblasting and preparation of exterior surface containing lead paint, tank containment system and all environmental controls and permitting, environmental controls including heat and dehumidification, industrial hygiene and reporting, recyclable grit or waste minimization additive, furnishing and applying new coating system, coordination with utility companies and telecommunication companies (aside from efforts described in item 2.01), waste characterization and disposal, and all other incidentals as required herein and as shown on the drawings.
- C. 2.03 – Miscellaneous Concrete Foundation Repairs: The unit bid item shall be measured as lump sum and payment shall be made in accordance with the unit price bid and shall constitute full compensation for the furnishing and installation of grout to the extent needed in space between tank

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floor plate extension lip and concrete foundation including cleaning and complete removal of existing sealant, grout, debris, and vegetation, surface preparation, material and equipment for installation and all necessary materials, labor, plant, equipment and tools and incidental work, and all other required appurtenances as shown on the plans and described in the specifications.

- D. 2.04 – Prepare & Recoat Interior Surfaces: The unit bid item shall be measured as lump sum and payment shall be made in accordance with the unit price bid and shall constitute full compensation for sandblasting and preparation of interior surface containing paint (including lead based paint), tank containment system and all environmental controls and permitting, protection of tank cathodic protection system, environmental controls including heat and dehumidification, industrial hygiene and reporting, recyclable grit or waste minimization additive, furnishing and applying new coating system, waste characterization and disposal, cleaning, recoating of appurtenances, disinfection and sampling and testing of storage tank and return to service, and all other incidentals as required herein and as shown on the drawings.
- E. 2.05 – Clean Foundation & Apply Epoxy Resin Concrete Penetrating Sealer: The unit bid item shall be measured as lump sum and payment shall be made in accordance with the unit price bid and shall constitute full compensation for brush blasting, power or needle blasting all the concrete to a level 16-inches below grade, removal of vegetation and debris, deteriorated concrete surface preparation, material and equipment for installation of concrete, grout, penetrating sealer, labor, plant, equipment and tools and incidental work; and all other required appurtenances as shown on the plans and described in specifications.
- F. 2.06 – Repair & Refurbish Anchor Bolts, Nuts & Chair Assemblies: The unit bid item shall be measured as each and payment shall be made in accordance with the unit price bid and shall constitute full compensation for the repair and refurbishment of anchor bolts, nuts and chair assemblies, including surface preparation, material, application and installation and all necessary materials, labor, plant, equipment and tools and incidental work; and all other required appurtenances as shown on the plans and described in the specifications.
- G. 2.07 – Miscellaneous Electrical Work: The unit bid item shall be measured as lump sum and payment shall be made in accordance with the unit price bid and shall constitute full compensation for the removal and reinstallation of all electrical components as necessary to facilitate the required tank coating and rehabilitation activities in accordance with all applicable electrical codes. Any required permits shall be the responsibility of the painting contractor.

ADD/ALTERNATE BID ITEMS (THESE ITEMS MAY BE AWARDED AT THE DISCRETION OF THE OWNER AND SHALL NOT BE INCLUDED IN THE BASE BID)

- A. A2.01 – Clean & Recoat Fill/Draw Piping & Valve Vault Piping: The unit bid item shall be measured as lump sum and payment shall be made in accordance with the unit price bid and shall constitute full compensation for cleaning and repainting the fill/draw piping and drain piping in the valve chamber including piping in void space directly under tank, protection of existing instrumentation, relocating existing instrumentation, and all other incidentals as required herein and as shown on the drawings.
- B. A2.02 – Furnish & Install Clog-Resistant Roof Vent: The unit bid item shall be measured as lump sum and payment shall be made in accordance with the unit price bid and shall constitute full

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compensation for removal and disposal of existing vent, furnishing & installation of a clog-resistant steel vent in accordance with AWWA D100 Standard including surface preparation, material, application and installation and all necessary materials, labor, plant, equipment and tools, welding, and incidental work; and all other required appurtenances as shown on the plans and described in the specifications. Surface preparation and coating of new steel flange shall be included under Prepare & Recoat Exterior Surfaces item.

- C. A2.03 – Furnish & Install 30” Shell Man Way: The unit bid item shall be measured as lump sum and payment shall be made in accordance with the unit price bid and shall constitute full compensation for the furnishing and installation of a new shell man way structure of the size and location as specified in accordance with AWWA D100 and all other incidentals as required herein and as shown on the drawings. Surface preparation and coating of new shell man way shall be included under Prepare & Recoat Exterior Surfaces and Prepare & Recoat Interior Surfaces items.
- D. A2.04 – Revolving Ladder Modifications & Repairs: The unit bid item shall be measured as lump sum and payment shall be made in accordance with the unit price bid and shall constitute full compensation for installation of OSHA approved handrails and repairs to the existing revolving ladder so that it is functional, including surface preparation, material, application and installation and all necessary materials, labor, plant, equipment and tools and incidental work; and all other required appurtenances as shown on the plans and described in the specifications. Surface preparation and coating of new steel components shall be included under Prepare & Recoat Exterior Surfaces item.
- E. A2.05 – Install Cable Tray Mounting Brackets: The unit bid item shall be measured as lump sum and payment shall be made in accordance with the unit price bid and shall constitute full compensation for the fabrication and installation of cable tray mounting brackets and all necessary materials, labor, plant, equipment and tools and incidental work as shown on the plans and described in the specifications. Surface preparation and coating on new steel components shall be included under Prepare & Recoat Exterior Surfaces item.
- F. A2.06 – Electrical Work Associated with Completion of Add/Alternate Items: The unit bid item shall be measured as lump sum and payment shall be made in accordance with the unit price bid and shall constitute full compensation for the removal and reinstallation of all electrical components as necessary to facilitate the work associated with the add/alternate bid items in accordance with all applicable electrical codes. Any required permits shall be the responsibility of the painting contractor.

PART 3.00 - EXECUTION

3.01 BID ITEMS

- A. Appurtenant items of work shown on the Drawings or specified are required to complete the work, but are not listed separately under the various applicable bid items of work and no separate payment will be made for such items. It shall be the responsibility of the Contractor to verify any missing or incomplete items.

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3.02 MEASUREMENT

- A. The measurement of all quantities of items listed in the Bid Form shall be done by the Owner. The measurement will include proper and complete documentation of all items to the satisfaction of the Owner prior to the submission of payment. The measurement submitted shall be in the same unit description listed in the Bid Form.

3.03 PAYMENT

- A. Payments shall be made to the Contractor only after proper documentation of the unit quantity provided and in accordance with the contract terms and conditions regarding payment.
- B. Payment for bid items shall include full compensation for all required work for the complete installation of the complete product.
- C. Payment shall be made only for that work which the pay limits shown on the drawings or detailed in the Specifications. No payment shall be made for work beyond these limits unless the work has been authorized by the Owner in writing.

END OF SECTION

SECTION 01152
APPLICATION FOR PAYMENT FORM

Contractor's Application For Payment No. _____

Application Period:		Application Date:
To (Owner):	From (Contractor):	Via (Engineer)
Project:	Contract:	
Owner's Contract No.:	Contractor's Project No.:	Engineer's Project No.:

APPLICATION FOR PAYMENT

Change Order Summary

Approved Change Orders			1. ORIGINAL CONTRACT PRICE	\$	_____
Number	Additions	Deductions	2. Net change by Change Orders	\$	_____
			3. CURRENT CONTRACT PRICE (Line 1 ± 2)	\$	_____
			4. TOTAL COMPLETED AND STORED TO DATE		
			(Column F on Progress Estimate)	\$	_____
			5. RETAINAGE:		
			a. _____ % x \$ _____ Work Completed	\$	_____
			b. _____ % x \$ _____ Stored Material	\$	_____
			c. Total Retainage (Line 5a + Line 5b)	\$	_____
			6. AMOUNT ELIGIBLE TO DATE (Line 4 - Line 5c).....	\$	_____
			7. LESS PREVIOUS PAYMENTS (Line 6 from prior Application)	\$	_____
			8. AMOUNT DUE THIS APPLICATION	\$	_____
			9. BALANCE TO FINISH, PLUS RETAINAGE		
			(Column G on Progress Estimate + Line 5 above)	\$	_____
TOTALS					
NET CHANGE BY CHANGE ORDERS					

CONTRACTOR'S CERTIFICATION

The undersigned Contractor certifies that: (1) all previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with Work covered by prior Applications for Payment; (2) title of all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to Owner at time of payment free and clear of all Liens, security interests and encumbrances (except such as are covered by a Bond acceptable to Owner indemnifying Owner against any such Liens, security interest or encumbrances); and (3) all Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

By:	Date:
-----	-------

Payment of:	\$ _____	(Line 8 or other - attach explanation of other amount)
is recommended by:	_____	(Engineer) _____ (Date)
Payment of:	\$ _____	(Line 8 or other - attach explanation of other amount)
is approved by:	_____	(Owner) _____ (Date)
Approved by:	_____	Funding Agency (if applicable) _____ (Date)

Progress Estimate

Contractor's Application

For (contract):						Application Number:		
Application Period:						Application Date:		
A		B	Work Completed		E	F		G
Item		Scheduled Value	C	D	Materials Presently Stored (not in C or D)	Total Completed and Stored to Date (C + D + E)	% (F) B	Balance to Finish (B - F)
Specification Section No.	Description		From Previous Application (C + D)	This Period				
	Totals							

Progress Estimate

Contractor's Application

For (contract):						Application Number:				
Application Period:						Application Date:				
A				B	C	D	E	F		G
Item		Bid Quantity	Unit Price	Bid Value	Estimated Quantity Installed	Value	Materials Presently Stored (not in C)	Total Completed and Stored to Date (D + E)	% (E) B	Balance to Finish (B - F)
Bid Item No.	Description									
	Totals									

Stored Material Summary

Contractor's Application

For (contract):					Application Number:				
Application Period:					Application Date:				
A	B	C	D		E		F		G
Invoice No.	Shop Drawing Transmittal No.	Materials Description	Stored Previously		Stored this Month		Incorporated in Work		Materials Remaining in Storage (\$) (D + E - F)
			Date (Month/Year)	Amount (\$)	Amount (\$)	Subtotal	Date (Month/Year)	Amount (\$)	
		Totals							

SECTION 01153
CHANGE ORDER FORM

Change Order**No.** _____

Date of Issuance: _____ Effective Date: _____

Project:	Owner:	Owner's Contract No.:
Contract:		Date of Contract:
Contractor:		Engineer's Project No.:

The Contract Documents are modified as follows upon execution of this Change Order:

Description:

Attachments: (List documents supporting change):

CHANGE IN CONTRACT PRICE:	CHANGE IN CONTRACT TIMES:
Original Contract Price:	Original Contract Times: <input type="checkbox"/> Working days <input type="checkbox"/> Calendar days
\$ _____	Substantial completion (days or date): _____
	Ready for final payment (days or date): _____
[Increase] [Decrease] from previously approved Change Orders No. _____ to No. _____:	[Increase] [Decrease] from previously approved Change Orders No. _____ to No. _____:
\$ _____	Substantial completion (days): _____
	Ready for final payment (days): _____
Contract Price prior to this Change Order:	Contract Times prior to this Change Order:
\$ _____	Substantial completion (days or date): _____
	Ready for final payment (days or date): _____
[Increase] [Decrease] of this Change Order:	[Increase] [Decrease] of this Change Order:
\$ _____	Substantial completion (days or date): _____
	Ready for final payment (days or date): _____
Contract Price incorporating this Change Order:	Contract Times with all approved Change Orders:
\$ _____	Substantial completion (days or date): _____
	Ready for final payment (days or date): _____

RECOMMENDED:	ACCEPTED:	ACCEPTED:
By: _____ Engineer (Authorized Signature)	By: _____ Owner (Authorized Signature)	By: _____ Contractor (Authorized Signature)
Date: _____	Date: _____	Date: _____
Approved by Funding Agency (if applicable): _____		Date: _____

Change Order

Instructions

A. GENERAL INFORMATION

This document was developed to provide a uniform format for handling contract changes that affect Contract Price or Contract Times. Changes that have been initiated by a Work Change Directive must be incorporated into a subsequent Change Order if they affect Price or Times.

Changes that affect Contract Price or Contract Times should be promptly covered by a Change Order. The practice of accumulating Change Orders to reduce the administrative burden may lead to unnecessary disputes.

If Milestones have been listed in the Agreement, any effect of a Change Order thereon should be addressed.

For supplemental instructions and minor changes not involving a change in the Contract Price or Contract Times, a Field Order should be used.

B. COMPLETING THE CHANGE ORDER FORM

Engineer normally initiates the form, including a description of the changes involved and attachments based upon documents and proposals submitted by Contractor, or requests from Owner, or both.

Once Engineer has completed and signed the form, all copies should be sent to Owner or Contractor for approval, depending on whether the Change Order is a true order to the Contractor or the formalization of a negotiated agreement for a previously performed change. After approval by one contracting party, all copies should be sent to the other party for approval. Engineer should make distribution of executed copies after approval by both parties.

If a change only applies to price or to times, cross out the part of the tabulation that does not apply.

SECTION 01155
WORK CHANGE DIRECTIVE

Work Change Directive**No. _____**

Date of Issuance: _____ Effective Date: _____

Project:	Owner:	Owner's Contract No.:
Contract:		Date of Contract:
Contractor:		Engineer's Project No.:

You are directed to proceed promptly with the following change(s):

Item No.	Description

Attachments (list documents supporting change):

Purpose for Work Change Directive:

- ☐ Authorization for Work described herein to proceed on the basis of Cost of the Work due to:
- ☐ Nonagreement on pricing of proposed change.
- ☐ Necessity to expedite Work described herein prior to agreeing to changes on Contract Price and Contract Time.

Estimated change in Contract Price and Contract Times:

Contract Price \$ _____ (increase/decrease)

Contract Time _____ (increase/decrease)
days

If the change involves an increase, the estimated amounts are not to be exceeded without further authorization.

Recommended for Approval by Engineer:	Date
Authorized for Owner by:	Date
Accepted for Contractor by:	Date
Approved by Funding Agency (if applicable):	Date:

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SECTION 01300

SUBMITTALS

PART 1.00 - GENERAL

1.01 SECTION INCLUDES

- A. Submittal Procedures
- B. Construction Progress Schedules
- C. Proposed Products List
- D. Shop Drawings
- E. Product Data
- F. Samples
- G. Manufacturers' Instructions
- H. Manufacturers' Certificates

1.02 SUBMITTAL PROCEDURES

- A. Transmit each submittal with Owner-accepted form.
- B. Sequentially number the transmittal forms. Resubmittals are to have original number with an alphabetic suffix.
- C. Identify Project, Contractor, subcontractor or supplier; pertinent drawing sheet and detail number(s), and specification section number, as appropriate.
- D. Apply Contractor's stamp, signed or initialed certifying that review, verification of products required, field dimensions, adjacent construction work, and coordination of information, is in accordance with the requirements of the work and Contract Documents.
- E. Schedule submittals to expedite the Project, and deliver to Owner at business address. Coordinate submission of related items.
- F. Identify variations from Contract Documents and product or system limitations that may be detrimental to successful performance of the completed work.
- G. Provide space for Contractor and Owner review stamps.
- H. Revise and resubmit submittals as required, identify all changes made since previous submittal.
- I. Distribute copies of reviewed submittals to concerned parties. Instruct parties to promptly report any inability to comply with provisions.

1.03 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit initial progress schedule in duplicate within 10 days after date established in Notice to Proceed for Owner review.

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- B. Revise and resubmit as required.
- C. Submit revised schedules with each Application for Payment, identifying changes since previous version.
- D. Submit a horizontal bar chart with separate line for each major section of work or operation identifying first workday of each week.
- E. Show complete sequence of construction by activity, identifying work of separate stages and other logically grouped activities. Indicate the early and late start, early and late finish, float dates, and duration.
- F. Indicate estimated percentage of completion for each item of work at each submission.
- G. Indicate submittal dates required for shop drawings, product data, samples, and product delivery dates, including those furnished by Owner and under Allowances.

1.04 PROPOSED PRODUCTS LIST

- A. Within 10 days after date of Notice to Proceed, submit complete list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation and reference standards.

1.05 SHOP DRAWINGS

- A. Submit the number of opaque reproductions which Contractor requires, plus 3 copies which will be retained by Owner.

1.06 PRODUCT DATA

- A. Submit the number of copies which the Contractor requires, plus 3 copies which will be retained by the Owner.
- B. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information unique to this project.

1.07 SAMPLES

- A. Submit samples to illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
- B. Submit samples of finishes from the full range of manufacturers' standard colors, textures and patterns for Owner's selection.
- C. Include identification on each sample, with full project information.
- D. Submit the number of samples specified in individual specification sections.

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- E. Reviewed samples which may be used in the work are indicated in individual specification sections.

1.08 MANUFACTURERS' INSTRUCTIONS

- A. When specified in individual specification sections, submit manufacturers' printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, in quantities specified for product data.
- B. Identify conflicts between manufacturers' instructions and Contract Documents.

1.09 MANUFACTURERS' CERTIFICATES

- A. When specified in individual specification sections, submit manufacturers' certificate to Owner for review, in quantities specified for product data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or product, but must be acceptable to Owner.

PART 2.00 - PRODUCTS

NOT USED

PART 3.00 - EXECUTION

NOT USED

END OF SECTION

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SECTION 01380

CONSTRUCTION PHOTOGRAPHS

PART 1.00 - GENERAL

1.01 INCLUDED:

- A. Photography
- B. Prints
- C. Digital Files
- D. Technique
- E. Views
- F. Pre Construction Video
- G. Submittals

1.02 RELATED SECTIONS

- A. Section 01010 - General Description of the Work
- B. Section 01700 - Contract Closeout: Project Record documents

1.03 PHOTOGRAPHY

- A. Provide photographs of site and construction areas prior to commencement of work produced by an experienced photographer, acceptable to the Owner.
- B. Take photographs as follows:
 - 1. Site conditions prior to construction.
 - 2. During construction when encountering quantities or conditions that differ from Contract Documents.

1.04 PRINTS

- A. Full color; 1 print of each view.
- B. Paper; single weight, neutral black image tone, white base.
- C. Finish; smooth surface, glossy.
- D. Size: 3½" x 5" standard 35mm print.
- E. Identify each print on back. Identify name of project, contract number, phase orientation or view, date and time of view, name and address of photographer, and photographer's numbered identification of exposure.

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1.05 DIGITAL FILES

- A. Deliver digital files to Owner with record documents. Catalog and index digital files in chronological sequence; provide typed table of contents.

1.06 TECHNIQUE

- A. Provide factual presentation.
- B. Provide correct exposure and focus, high resolution and sharpness, maximum depth of field, and minimum distortion.

1.07 VIEWS

- A. Consult with Owner for instructions on views required.

1.08 PRECONSTRUCTION VIDEO

- A. The preconstruction video shall be taken by a professional photographer and narrated shown existing conditions clearly. The original video and one (1) copy shall be submitted to the Owner prior to undertaking any work by the Contractor at the site.

1.09 SUBMITTALS

- A. Deliver prints within seven (7) days after exposure, with transmittal letter.

PART 2.00 - PRODUCTS

Not Used.

PART 3.00 - EXECUTION

Not Used.

END OF SECTION

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SECTION 01400

QUALITY CONTROL

PART 1.00 - GENERAL

1.01 SECTION INCLUDES

- A. Quality Assurance and Control of Installation
- B. References
- C. Field samples
- D. Inspection and testing laboratory services
- E. Manufacturers' field services and reports

1.02 RELATED SECTIONS

- A. Section 01300 - Submittals: Submission of Manufacturers' Instructions and Certificates.
- B. Section 01600 - Material and Equipment: Requirements for material and product quality.

1.03 QUALITY ASSURANCE AND CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship to produce work of specified quality.
- B. Comply fully with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Owner before proceeding.
- D. Comply with specified standards as a minimum quality for the work except when more stringent tolerances, codes or specified requirements indicate higher standards or more precise workmanship.
- E. Perform work by persons qualified to produce workmanship of specified quality.
- F. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

1.04 REFERENCES

- A. Conform to reference standard by date of issue current on date of Contract Documents.
- B. Obtain copies of standards when required by Contract Documents.
- C. Should specified reference standards conflict with Contract Documents, request clarification from Owner before proceeding.
- D. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention of inference otherwise in any reference document.

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1.05 FIELD SAMPLES

- A. Install field samples at the site for review, as required by individual specification sections.
- B. Acceptable samples represent a quality level for the work.
- C. Where field sample is specified in individual sections to be removed, clear area after field sample has been accepted by Owner.

1.06 INSPECTION AND TESTING LABORATORY SERVICES

- A. The Contractor shall submit names of all the firms to be utilized for testing and analytical services for approval by the Owner. No results or observations will be accepted unless performed by an approved testing firm.
- B. The testing firm will perform inspections, tests and other services specified in individual specification sections and as required by the Owner.
- C. Reports will be submitted by the testing firm to the Owner, in duplicate, indicating observations and results of tests, and compliance or non-compliance with Contract Documents.
- D. Cooperate with testing firm, furnish samples of materials, design mix, equipment, tools, storage and assistance as requested.
 - 1. Notify Owner and testing firm seven (7) days prior to expected time for operations requiring services.
 - 2. All costs associated with testing will be paid by the Contractor.
- E. Re-testing required due to non-conformance to specified requirements, shall be performed by the same testing firm per instructions by the Owner. Payment for re-testing will be paid by the Contractor with no additional cost to the Owner.

1.07 MANUFACTURER'S FIELD SERVICES AND REPORTS

- A. Submit qualifications of observer to Owner 30 days in advance of required observations. Observer subject to approval of Owner.
- B. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, testing, adjusting and balance of equipment as applicable, and to initiate instructions when necessary.
- C. Individuals to report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
- D. Submit report in duplicate to Owner for review, within 30 days of observation.

END OF SECTION

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SECTION 01500

TEMPORARY CONTROLS

PART 1.00 - GENERAL

1.01 SECTION INCLUDES

- A. Temporary Controls: Fencing, Barriers
- B. Control and Diversion of Water and Dewatering
- C. Erosion and Sediment Control
- D. Dust Control
- E. Noise Control
- F. Pollution Control
- G. Traffic Control
- H. Progressive Cleaning

1.02 BARRIERS AND FENCING

- A. Provide barriers to prevent unauthorized entry to project site, allow for Owner's use of site, protect existing facilities and adjacent properties from damage from construction operations.
- B. Provide protection for plant life designated to remain. Replace damaged plant life.
- C. Protect non-owned vehicular traffic, stored materials, site and structure from damage and to minimize hazards to general public (i.e. curious nuisance).
- D. Provide controls at the site to prevent damage and contamination of the site and adjacent properties. The Contractor shall be responsible for all costs associated with repairs to adjacent properties as well as remedial measures required to be undertaken as a result of the Contractor's operations on site.

1.03 CONTROL AND DIVERSION OF WATER AND DEWATERING

- A. The Contractor shall be responsible for providing and maintaining all ditching, grading, sheeting and bracing, pumping and appurtenant work for the temporary diversion of water courses and protection from flooding as necessary to permit construction of work in the dry.

1.04 EROSION AND SEDIMENT CONTROL

- A. The work covered under this section shall include all work required by the Owner or the State of Rhode Island for erosion and sediment control.
- B. Where "Erosion and Sediment Control Handbook" is referred to, it shall mean "The Rhode Island Erosion and Sediment Control Handbook" prepared by the U.S. Department of Agriculture, Soil Conservation Service, West Warwick, Rhode Island, 1989.

1.05 DUST CONTROL

- A. Execute work by methods to minimize raising dust from construction operations.

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- B. Provide positive means to prevent air-borne dust from dispersing into atmosphere, such as spraying water and/or calcium chloride.

1.06 NOISE CONTROL

- A. The Contractor shall coordinate and schedule all work, which will contribute to increased noise levels in residential areas with the Owner. This shall be done with sufficient time to allow the Owner to notify the residents.
- B. The Contractor shall work utilizing methods to minimize excess noise whenever possible.
- C. In no case shall work resulting in increased noise levels be performed prior to 7:00 a.m. or after 7:00 p.m., without written authorization of the Owner.

1.07 POLLUTION CONTROL

- A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.

1.08 TRAFFIC CONTROL

- A. The Contractor shall be responsible for the procurement of trafficmen to control and protect pedestrians and traffic during the construction of the Contractor Work when so directed by the Owner.
- B. The Contractor shall be compensated for trafficmen early when the requirement for such has been made by the Owner or local public safety official.

1.09 PROGRESSIVE CLEANING

- A. As project progresses, maintain areas free of waste materials, debris and rubbish. Interim measures shall be undertaken to maintain a clean site while work progresses.
- B. Sweep all paved surfaces disturbed by construction activity prior to opening to vehicular or pedestrian traffic.

END OF SECTION

SECTION 01600

MATERIAL AND EQUIPMENT

PART 1.00 - GENERAL

1.01 SECTION INCLUDES

- A. Products
- B. Transportation and Handling
- C. Storage and Protection
- D. Product Options
- E. Substitutions

1.02 RELATED SECTIONS

- A. Section GC-1 – General Conditions (Materials, Services, and Facilities)

1.03 PRODUCTS

- A. Means new material, machinery, components, equipment, fixtures and systems forming the work. Does not include machinery and equipment used for preparation, fabrication, conveying and erection of the work. Products may also include existing materials or components required for reuse.
- B. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.
- C. Provide interchangeable components of the same manufacturer for similar components.

1.04 TRANSPORTATION AND HANDLING

- A. Transport and handle products in accordance with manufacturers' instructions.
- B. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

1.05 STORAGE AND PROTECTION

- A. Store and protect products in accordance with manufacturers' instructions, with seals and labels intact and legible. Store sensitive products in weather tight climate controlled enclosures.
- B. For exterior storage of fabricated products, place on sloped supports, above ground.
- C. Provide off-site storage and protection when site does not permit on-site storage or protection.

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- D. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation.
- E. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- F. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- G. Arrange storage of products to permit access for inspection. Periodically inspect to assure products are undamaged and are maintained under specified conditions.

1.06 PRODUCT OPTIONS

- A. Products specified by reference standards or by description only shall mean any product meeting those standards or description.
- B. Products specified by naming one or more manufacturers shall mean products of manufacturers named and meeting specifications; no options or substitutions allowed.
- C. Products specified by naming one or more manufacturers, with a provision for substitutions, means that the Contractor shall submit a request for substitution for any manufacturer not named.

1.07 SUBSTITUTIONS

- A. Instructions to Bidders specifies time restrictions for submitting requests for substitutions to requirements specified in this section, during the bidding period.
- B. Substitutions may be considered when a product becomes unavailable through no fault of the Contractor.
- C. Document each request with complete data, substantiating compliance of proposed substitution with Contract Documents.
- D. A request constitutes a representation that the Contractor:
 - 1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product;
 - 2. Will provide the same warranty for the substitution as for the specified product;
 - 3. Will coordinate installation and make changes to other work which may be required for the work to be complete, with no additional cost to the Owner;
 - 4. Waives claims for additional costs or time extension which may subsequently become apparent; and
 - 5. Will reimburse Owner for review or redesign services associated with re-approval by

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authorities.

E. Substitutions will not be considered when they are indicated or implied on shop drawings or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.

F. Substitution Submittal Procedure:

1. Submit three (3) copies of request for substitution for consideration. Limit each request to one proposed substitution.
2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence.
3. The Owner will notify Contractor, in writing, of decision to accept or reject request.

PART 2.00 - PRODUCTS

NOT USED

PART 3.00 - EXECUTION

NOT USED

END OF SECTION

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SECTION 01700

CONTRACT CLOSEOUT

PART 1.00 - GENERAL

1.01 SECTION INCLUDES

- A. Closeout Procedures
- B. Final Cleaning
- C. Adjusting
- D. Project Record Documents
- E. Warranties
- F. Spare Parts and Maintenance Materials

1.02 RELATED SECTIONS

- A. Section 01500 - Temporary Controls (progress cleaning)

1.03 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Owner's inspection.
- B. Provide submittals to Owner that are required by governing, or other authorities.
- C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

1.04 FINAL CLEANING

- A. The Contractor shall leave all project areas in a condition equal to that prior to construction.
- B. Clean debris from storage and staging.
- C. Clean site, sweep paved areas, rake clean landscaped surfaces.
- D. Remove waste and surplus materials, rubbish, and construction facilities from the site.
- E. Remove erosion control material upon complete surface stabilization as determined by the Owner.

1.05 ADJUSTING

- A. Adjust operating products and equipment to ensure smooth and unhindered operation.

1.06 PROJECT RECORD DOCUMENTS

- A. Owner's representative shall be responsible for maintaining project record documents. Contractor shall

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assist and make available information to Owner's representative for preparation of record documents.

B. Specifications: Contractor shall legibly record at each product section, description of actual products installed, including the following:

1. Manufacturer's name and product model and number.
2. Product substitutions or alternates utilized.
3. Changes made by addenda and modifications.

C. Contractor shall assist Owner's representative in securing the following information:

1. Measured depths of structures in relation to datum on drawings.
2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the work.
4. Field changes of dimension and detail.
5. Details not on original Contract Drawings.

1.07 WARRANTIES

- A. Provide duplicate copies.
- B. Execute and assemble documents from subcontractors, suppliers and manufacturers.
- C. Provide Table of Contents and assemble in order of specification section numbers.
- D. Submit prior to final Application for Payment.
- E. For items of work delayed beyond date of Substantial Completion, provide updated submittal within ten (10) days after acceptance, listing date of acceptance as start of warranty period.

1.08 SPARE PARTS AND MAINTENANCE MATERIALS

- A. Provide products, spare parts, maintenance and extra materials in quantities specified in individual specification sections.
- B. Deliver to the Owner; obtain receipt prior to Final Payment.

PART 2.00 - PRODUCTS

NOT USED

PART 3.00 - EXECUTION

NOT USED

END OF SECTION

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SECTION 01730

OPERATION AND MAINTENANCE DATA

PART 1.00 - GENERAL

1.01 SECTION INCLUDES

- A. Format and Content of Manuals.
- B. Instruction of Owner's Personnel.
- C. Schedule of Submittals

1.02 QUALITY ASSURANCE

- A. Prepare instructions and data by personnel experienced in maintenance and operation of described products.

1.03 FORMAT

- A. Prepare data in the form of an instructional manual.
- B. Binders. Commercial quality, 8-1/2"x11" binders with hard back, cleanable, plastic covers.
- C. Cover. Identify each binder with typed title "OPERATION AND MAINTENANCE INSTRUCTIONS"; list title of project; identify subject matter of contents.
- D. Arrange content by systems under section numbers and sequence of Table of Contents of this Project Manual.
- E. Provide tabbed flyleaf for each separate product and system with typed description of product and major component parts of equipment.
- F. Text. Manufacturer's printed data or typewritten data on 20-pound paper.
- G. Drawings. Provide with reinforced punched binder tab, bind in with text; fold larger drawings to size of text pages.

1.04 CONTENTS - EACH VOLUME

- A. Table of Contents. Provide title of project; names, addresses and telephone numbers of Owner, subconsultants and Contractor, with name of responsible parties; schedule of products and systems indexed to content of the volume.
- B. For Each Product or System. List names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.

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- C. Product Data. Mark each sheet to clearly identify specific products and component parts and data applicable to installation. Delete inapplicable information.
- D. Drawings. Supplement product data to illustrate relations of component parts of equipment and systems to show control and flow diagrams.
- E. Type Text. As required to supplement product data, provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.
- F. Warranties and Bonds. Bind in a copy of each.

1.05 MANUAL FOR EQUIPMENT AND SYSTEMS

- A. Each Item of Equipment and Each System. Include description of unit or system and component parts. Identify function, normal operating characteristics, and limiting conditions. Include performance curves with engineering data and tests, and complete nomenclature and commercial number of replaceable parts.
- B. Panelboard Circuit Directories. Provide electrical service characteristics, controls and communications.
- C. Include color coded wiring diagrams as installed.
- D. Operating Procedures. Include start-up, break-in, and routine normal operating instructions and sequences. Include regulations, control, stopping, shut-down and emergency instructions. Include summer, winter and any special operating instructions.
- E. Maintenance Requirements. Include procedures guide for trouble-shooting; disassembly, repair, reassembly instructions; alignment, adjusting, balancing and checking instructions.
- F. Provide servicing and lubrication schedule, and list of lubricants required.
- G. Include manufacturer's printed operation and maintenance instructions.
- H. Include sequence of operation by controls manufacturer.
- I. Provide original manufacturer's parts list, illustrations, assembly drawings and diagrams required for maintenance.
- J. Provide control diagrams by controls manufacturer as installed.
- K. Provide Contractor's coordination drawings, with color-coded piping diagrams as installed.
- L. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- M. Provide list of original manufacturer's spare parts, current prices, and recommended

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quantities to be maintained in storage.

- N. Include test and balancing reports as specified in specifications.
- O. Additional Requirements. As specified in individual product specification sections.
- P. Provide a listing in Table of Contents for design data, with tabbed flysheet and space for insertion of data.

1.06 MANUAL ON OPERATION

- A. Included in the Operation and Maintenance Manual for the water storage facilities shall be the manual detailing operation of the facilities as a whole.

1.07 SUBMITTALS

- A. Submit two (2) copies of preliminary draft or proposed formats and outlines of contents before start of work. Owner will review draft and return one copy with comments.
- B. For equipment, or component parts of equipment put into service during construction, and operated by Owner, submit documents within ten (10) days after acceptance.
- C. Submit one copy of completed volume in final form 15 days prior to final inspection. Copy will be returned after final inspection with Owner's comments. Revise content of documents as required prior to final submittals.
- D. Submit one copy of revised volumes of data in final form within ten (10) days after final inspection.
- E. Upon final approval of the Operation and Maintenance Manual by Owner, provide six (6) copies to the Owner for distribution to operating personnel. This shall be done prior to on-site training for use during training.

PART 2.00 - MATERIALS

Not Applicable

PART 3.00 - EXECUTION

Not Applicable

END OF SECTION

TECHNICAL SPECIFICATIONS

SECTION 03730

CONCRETE FOUNDATION REHABILITATION

PART 1.00 - GENERAL

1.01 DESCRIPTION

- A. This work includes partial depth patching of spalls, “pop outs”, scaling, disintegrated concrete, and/or other surface distress of the existing tank foundations. This work also includes removing concrete patches from “spalled” or damaged areas of the surfaces and patching them with approved patching materials according to this Specification.
- B. Remove soil and other materials to a vertical depth of three (3) feet at the perimeter of each tank foundation for purposes of visual inspection. The foundations shall be power washed in order to perform the visual inspections.

1.02 WORK INCLUDES

- A. Provide all labor, equipment and materials necessary to complete the following concrete repair work:
 - 1. Preparation of all surfaces to receive patching compound.
 - 2. Saw cutting as required to form patch boundary.
 - 3. Repairs to delaminated and scaled areas of existing concrete.
 - 4. Repair of cracks.
 - 5. Forming as required to contain patching concrete until cured.
 - 6. Mixing and transportation of patching compound.
 - 7. Priming of repair areas and placement of patching compound.
 - 8. Finishing and curing of patches.
 - 9. Grouting of area between tank floor plate extension lip and concrete foundation at entire tank perimeter.
 - 10. Apply epoxy resin concrete penetrating sealer to all exposed concrete foundation surfaces.

1.03 REFERENCES

- A. ACI 224.1R Causes, Evaluation and Repair of Cracks in Concrete Structures.
- B. ACI 546R-04 – Concrete Repair Guide.
- C. ACI 503.0-92 – Standard Specification for Bonding Plastic Concrete to Hardened Concrete with a Multi Component Epoxy Adhesive.

- D. ACI 503.4-92 – Standard Specification for Repairing Concrete with Epoxy Mortars.

1.04 QUALITY ASSURANCE

- A. Manufacturing qualifications: The manufacturer of the specified product shall be ISO 9001 certified and have in existence a recognized ongoing quality assurance program independently audited on a regular basis.
- B. Contractor qualifications: Contractors shall be qualified in the field of concrete repair and protection with a successful track record of 5 years or more. Contractor shall maintain qualified personnel who have received product training by the manufacturer's representative.
- C. Install materials in accordance with all safety and weather conditions required by manufacturer or as modified by applicable rules and regulations of local, state and federal authorities having jurisdiction. Consult Material Safety Data Sheets for complete handling recommendations.

1.05 SUBMITTALS

- A. Product Data: Submit manufacturer's technical data for each product indicated including recommendations for their application and use.
- B. Samples of all specified materials and Material Safety Data Sheets (MSDS) as appropriate.
- C. If alternative methods and materials to those indicated are proposed for any phase of restoration work, provide written description, including evidence of successful use on other comparable projects.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to site in manufacturer's original unopened containers and packaging, bearing labels as to type and names of products and manufacturers.
- B. Deliver and store restoration material in manufacturer's original, unopened containers with the grade, batch and production data shown on the container or packaging.
- C. Protect restoration materials during storage and construction from wetting by rain, snow or groundwater, and protect liquid components from freezing.
- D. Comply with the manufacturer's written specifications and recommendations for mixing, application, and curing of grouts and patching materials.

1.07 PROTECTION / SITE CONDITIONS

- A. Clean concrete surfaces only when air temperatures are above 40 degrees F (4 deg. C) and will remain so until concrete has dried out, but for not less than 7 days after completion of cleaning.
- B. Do not perform any patching unless air temperatures are between 40 degrees Fahrenheit (10 deg. C) and 86 degrees Fahrenheit (30 deg. C) and will remain so for at least 48 hours after completion of work.

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- C. Do not perform any patching work if precipitation is expected. In case of unexpected precipitation, work shall cease and all uncured material shall be adequately protected with an impermeable polyethylene sheet.
- D. Cold Weather Precautions: (Between 35 deg. F and 40 deg. F)
 - 1. Curing times shall be extended to compensate for lower temperature cure.
 - 2. Do not proceed if temperatures will drop below freezing before patching compound has reached final set. Any material disrupted by early freezing must be removed and replaced under appropriate controls or conditions.
 - 3. If auxiliary heating will be used to protect freshly placed materials from freezing, equipment must not directly vent exhaust gases onto the repair materials or into repair enclosure air. This may cause carbonation and low strength. Use moderate temperatures and heated air or radiant heat.
- E. Hot Weather Precautions: (Above 86 deg. F)
 - 1. All materials shall be kept cool, stored out of direct sun.
 - 2. Pre-cooling of subsurface shall be carried out by continuous wetting at least one hour before placing patching compounds. This shall be done by covering or draping the entire repair area with burlap and by continuously keeping the burlap wet. The burlap shall be removed just prior to the patching of each area, as work proceeds.
 - 3. In hot, dry, windy weather, repair areas shall be covered or draped with burlap for a minimum of 3 hours after patch placement, to avoid rapid drying of the patches. Maximum wet cure time shall not exceed 24 hours.
- F. Cover partially completed work when work is not in progress.

1.08 SEQUENCING / SCHEDULING

- A. Perform concrete restoration work in the following sequence:
 - 1. Remove paint, stains and plant material from all surfaces.
 - 2. Remove existing unsound materials from areas indicated to be restored.
 - 3. Pressure wash concrete and repair surfaces as indicated.
 - 4. Patch and repair existing concrete structures as indicated.
 - 5. Provide consolidation/water repellent treatment to seal concrete structures as indicated.

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PART 2.00 – PRODUCTS

2.01 GENERAL

- A. Ensure that the materials used to repair and patch Portland cement concrete conform to the rapid setting patching material requirements.

2.02 WATER

- A. Water used for cleaning, mixing and finishing shall be clean, free from oil, acid, injurious amounts of vegetable matter, alkalies or other salts. Water shall be potable.

2.03 BONDING AGENTS

- A. Bonding agents applied to prepared reinforcement and surfaces shall be Sika Armatex 110 EpoCem or equal.

2.04 PATCHING CONCRETE

- A. All patching materials used for repairing spalls, deteriorated concrete, and surface defects shall be Portland cement based. Approved products include:
 - 1. Sikacrete 211 one-component, cementitious pumpable and pourable concrete mix and approved equal.
 - 2. Quikrete Commercial Grade FastSet DOT Mix or approved equal.

2.05 GROUTING

- A. Grouting shall include patching cracks prior to placing repair mortar, grouting anchors, and grouting horizontal cracks in concrete by gravity feed.
- B. Grouting of cracks and anchor bolts shall be performed with Sikadur Patch Fix High-Strength, medium viscosity epoxy resin bonding system or an approved equal.
- C. Field mixed grout, as further detailed in this specification, shall be used to “dry pack” cracks larger than $\frac{3}{4}$ ” in existing concrete prior to placing patching concrete.

2.06 REINFORCEMENT, MECHANICAL ANCHORS

- A. All concrete reinforcement materials shall be new, free from rust, and comply with the following reference standards:
 - 1. Bars for reinforcement: “Specification for deformed billet-steel bars for concrete reinforcement”, ASTM A-615, grade 60.
 - 2. Wire Fabric: “Specifications for Steel Welded Wire Fabric, Plain, for Concrete” ASTM A-185, with a minimum specified yield strength of 60,000 psi.
 - 3. Mechanical anchors used to provide positive anchorage for patching concrete shall be Kwik Bolt carbon steel expansion anchors as manufactured by Hilti, Inc., or approved equal.

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4. Threaded rods used to provide positive anchorage for patching concrete shall conform to ASTM A36 or ASTM A307 with minimum yield strength of 36,000 psi.

2.07 ADMIXTURES

- A. Mineral fillers, chemical admixtures, and calcium chloride shall not be used.

2.08 FORMWORK

- A. Materials used for forming surfaces shall be clean and free of oil, debris, with a smooth surface against which concrete is to be cast. Forms shall conform to the shape, lines and dimensions of the members to be repaired and allow for free flow of plastic concrete without voids resulting.
- B. Coatings used as a bond breaker between forms and cured concrete shall not transfer to the cured concrete surface. Oil based products shall not be used to coat form panels.

2.09 SEALANTS

- A. Sealants used to protect patched and adjacent concrete surfaces shall be Sikagard 701W chloride-ion repellent impregnation or an approved equal.

2.10 EQUIPMENT

- A. To clean the repair areas, use air compressors equipped with traps that can remove surplus water and oil in the compressed air. Ensure that the compressor can deliver compressed air at a continuous pressure of at least 90 psi (620 kPa).
- B. The Owner will check the compressed air daily for contamination. Do not use contaminated air.

PART 3.00 – EXECUTION

3.01 SURFACE PREPARATION

- A. Prior to patching, all surfaces must be prepared in accordance with this section of the specifications. This section describes the preparation required for various surfaces which are to receive patching compound.
- B. Removing and Preparing the Repair Area. Prepare to perform patching of spalled and deteriorated concrete as follows:
 1. Patching of “spalled” or disintegrated concrete less than 3” in depth:
 - a. “Sound” each area with a visual defect to determine the limits of the damaged or defective areas. Strike the concrete surface along the sides of each joint with a hammer or similar tool to detect unsound concrete that sounds flat or hollow.
 - b. Mark the limits of the defective areas on the surface by making a rectangle 2 in (50 mm) beyond the outer limits of the unsound concrete area as a guide for sawing.

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- c. Mark spalled areas less than 2 ft (600 mm) from each other along a joint as one spall area. If separated by 2 ft (600 mm) or more, mark as separate spall areas.
 - d. Saw the rectangular marked areas with near vertical faces at least 1 in (50 mm) but not more than 3 in (75 mm) deep. Feathering of repair materials is to be avoided.
 - e. Remove unsound material within the sawed area with a maximum 15 lb chipping hammer, being careful not to chip the saw cut face. All removals to be performed in accordance with ACI 546R-13 Section 2.3.2 c) "Mechanical Preparation", with regard to removal geometry, exposing, undercutting and cleaning of embedded reinforcement, and conditioning of edges and surfaces. Use of heavier chipping hammers shall be avoided to reduce the potential for micro cracking of the sound concrete.
 - f. Deteriorated and/or loose concrete shall be removed to a minimum depth of 1 inch and the resulting sound concrete surface shall exhibit a minimum roughness of 1/8 inch amplitude prior to placing patching concrete.
 - g. Do not damage or fracture the sound concrete substrate to be left on the bottom of the area to be repaired. Do not use sharp pointed bits.
 - h. Remove all contaminants such as oil, grease, dirt, or fine particles of concrete which will prevent bonding and reduce the effectiveness of the repair.
 - i. Repair all cracks encountered below the sound concrete substrate in accordance with Section 3.02 below.
 - j. Pressure wash all indicated surfaces using 3000-4000 psi water blast, as required to remove all dust and dirt. Abrasive shall be used in combination with water when cleaning repair cavities, as required to eliminate micro-cracked surface materials resulting from demolition. No water with concrete dust shall be allowed to remain on any surface following washing, and must be immediately removed, prior to drying and re-hardening.
 - k. The result of this preparation shall render a surface clean, meaning having complete exposure of sound original material without any deposits of contaminants, foreign matter or loose material, which could affect the bond or long-term durability of the surface and the patching compound.
2. Patching of Broken and Disintegrated Corners of Tank Foundations.
- a. Excavate a minimum distance of 36" below the ground surface and 2 feet outboard of the vertical face of the tank foundations.
 - b. Pressure wash all indicated surfaces using 3000-4000 psi water blast, as required to remove all dust and dirt. Abrasive shall be used in combination with water when cleaning repair cavities, as required to eliminate micro-cracked surface materials resulting from demolition. No water with concrete dust shall be allowed to remain on any surface following washing, and must be immediately removed, prior to drying and re-hardening.
 - c. "Sound" area with a visual defect to determine the limits of the damaged or defective areas in the same manner as noted above.

- d. Mark the area a minimum of 3 inches beyond the limits of the damage concrete and saw cut the marked area a minimum of 2" deep normal to the face of the concrete area to be repaired.
 - e. Prepare the surface as noted in 1 e. to k. above.
 - f. Concrete repair areas extending deeper than 3 inches shall be mechanically anchored to sound concrete substrate in accordance with the anchorage method on the drawings.
 - g. Forms and/or dams shall be secured against the vertical face of the tank foundation walls extending to the top surface of the area to be repaired. Care shall be taken during removal of the damaged concrete so as not to cause isolated pockets where concrete can not flow in the cavity to be repaired. All concrete anchors used to secure forms shall be removed and the holes sealed after the repair has cured.
3. Reinforcement Repair.
- a. All deteriorated concrete surrounding exposed reinforcement shall be removed using a small chipping hammer. Care shall be taken not to vibrate the reinforcement or otherwise cause damage to its bond to the concrete adjacent to the repair area.
 - b. If the reinforcing bars are only partially exposed after all unsound concrete is removed, it may not be necessary to remove additional concrete to expose the full circumference of the reinforcement. When the exposed reinforcing steel has loose rust, corrosion products, or is not well bonded to the surrounding concrete the concrete removal shall continue to create a clear space behind the reinforcing steel of 0.25 inches plus the dimension of the maximum size aggregate of the repair material.
 - c. After reinforcement is exposed and prepared as noted above, the Owner shall inspect the condition of the reinforcement and its location for possible replacement, repair or addition of supplemental reinforcement.
 - d. All exposed surfaces of steel reinforcement shall be thoroughly cleaned of all loose mortar, rust, oil, and other contaminants. Sandblasting is the preferred method for cleaning. The contractor shall make certain that the concrete substrate is not contaminated with oil from the air compressor during any cleaning operations.
 - e. When reinforcement has lost cross section, supplemental reinforcement may be needed. The allowable loss of cross section shall be determined on a case-by-case basis by the Owner.
 - f. Following cleaning and prior to patching, apply cementitious corrosion inhibitive primer and bonding agent to all steel surfaces in accordance with manufacturer's instructions. Care must be taken to create a continuous coating on the full surface, including the underside of the undercut reinforcement. Observe manufacturer's guidelines with regard to minimum and maximum timing "windows" for patching after application of primer.
4. Mechanical Anchorage for Repairs Greater than 3 inches in depth.

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- a. All repairs greater than 3 inches in depth and 1 square foot and larger shall be mechanically anchored to the parent concrete substrate to prevent new repairs from dislodging from the concrete substrate as prepared above.
- b. Non-corrosive anchors shall be used for all repairs.
- c. Anchors shall be a minimum of one quarter inch (1/4") in diameter and shall be placed on an eight inch center to center grid.
- d. Anchors may be expansion anchors, installed into a pre-drilled hole, or bonded anchors grouted with a cementitious or chemical grout. Anchors shall be installed in sound concrete substrate to a depth necessary to obtain their full yield capacity. A nut shall be threaded to the top of the expansion bolt or threaded rod to form a headed anchor.
- e. The tops of Anchors should extend to within 2 inches below the finished surface of the repair.
- f. When the depth of the repair exceeds 3 inches and is less than 6 inches, one layer of welded wire fabric, 4x4 - W1.4xW1.4, shall be placed at the center of the repair concrete. Additional layers of 4x4 - W1.4xW1.4 WWF shall be placed for each additional 4 inches of repair concrete to be placed.

3.02 CRACK REPAIR

- A. The following crack repair method is intended to be a cosmetic (non-structural) repair to seal the surface prior to finishing the final surface.

1. Narrow Cracks – up to 1/8 inch in width.

- a. Crack repair for small cracks less than 1/16" shall be performed following pressure washing and drying by gravity filling with Sikadur Patch Fix High-Strength, medium viscosity epoxy resin bonding system or an approved equal.
- b. Cracks from 1/16" in size and up to 1/4" in width shall be prepared by routing by cutting a groove from 1/2 inch to 1 inch in depth and a minimum of 1/4" in width with a concrete saw or pneumatic tool. The edges of the groove should be nearly vertical.
- c. Contaminants such as oil, grease, dirt, organic material, or fine particles of concrete shall be removed by vacuuming or flushing with water or other effective cleaning solutions. The water or cleaning solution shall be flushed out using compressed air and a neutralizing agent and adequate time should be provided for air drying.
- d. Crack repair for small cracks 1/16" to 1/4" shall be performed following pressure washing and drying by gravity filling with Sikadur Patch Fix High-Strength, medium viscosity epoxy resin bonding system or an approved equal.
- e. Cracks shall be finished flush with the surrounding surface.

2. Wide Cracks – 1/4" to 3/4" in width. (dry-pack sealing of dormant cracks)

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- a. Wide cracks shall be prepared for repair by high pressure air or water flushing so that the extent of the crack is known.
 - b. The exposed crack shall be cleaned by removal of all loose or broken concrete by chipping and/or saw cutting a slot approximately 1 inch wide by 1 inch deep. The slot should be undercut so that the base width is slightly larger than the top width.
 - c. Contaminants such as oil, grease, dirt, organic material, or fine particles of concrete shall be removed by vacuuming or flushing with water or other effective cleaning solutions. The water or cleaning solution shall be flushed out using compressed air and a neutralizing agent and adequate time should be provided for air drying.
 - d. After the slot is thoroughly cleaned and dried, a bond coat, consisting of cement slurry or equal quantities of cement and fine sand mixed with water to a fluid paste consistency shall be applied.
 - e. Placing the dry pack mortar shall begin immediately following the application of the bond coat.
 - f. Mortar consisting of one part cement, one to three parts sand passing a no. 16 sieve, and just enough water so that the mortar will stick together when molded into a ball by hand. To minimize shrinkage in place, the mortar should stand for ½ hour after mixing and then should be re-mixed prior to use.
 - g. The mortar shall be placed in layers about 3/8 inches thick. Each layer should be thoroughly compacted over the surface using a blunt stick or hammer, and each underlying layer should be scratched to facilitate bonding with the next layer. There need be no time delays between layers.
 - h. Moist cure the dry pack seal by laying a strip of folded wet burlap along the length of the crack.
 - i. Patching compounds are not to be used to bridge working cracks or joints.
3. Cracks larger than 3/4" in width shall be sealed under the direction of the Owner on a case by case basis.

3.03 CONCRETE PATCHING

- A. Areas to be repaired shall be kept in a clean condition, including materials, equipment and workers' footwear, to avoid tracking in of contaminants, dirt, dust, mud or other materials which may interfere with adhesion and durability of repairs.
- B. Coat all exposed reinforcement with Sika Armatex bonding agent and reinforcement protection. Apply and cure in accordance with manufacturers written instructions.
- C. After exposed reinforcement is coated as specified above apply Sika Armatex to prepared surface with a stiff-bristle brush, broom or hopper type spay. Mix only that quantity that can be applied within its pot life.

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- D. Place fresh, plastic patching concrete while the bonding bridge adhesive is “wet” or within open times indicated in the manufacturer's instructions.
- E. Mix the precisely measured quantity of water specified by the patching concrete manufacturer with full bags of patching compound only. Mix using slow speed drill (400 to 600 rpm), with mud or paddle mixer. Motorized mortar mixers may be used for mixing larger quantities. Mix to a uniform consistency for approximately 3 minutes, using a mix timer. Mix to a uniform consistency, free of lumps or dry material. Do not whip air into the mix. Follow the manufacturer’s directions and do not over mix.
- F. When placing the patching compound, care shall be taken to assure that all corners and gaps under reinforcing steel and entire cavity profile is completely filled and properly compacted to prevent formation of voids or unbonded areas. "Work" the material into corners and gaps, and onto cavity sidewalls using pressure on the trowel to assure good contact between patch and substrates.
- G. When the material is poured or pumped into forms insure proper filling and adhesion by vibrating the material during placement or pump the repair under pressure. Vibrate form while pouring or pumping.
- H. Do not re-temper material which has begun to set. Discard any unused material after 20 minutes. Do not excessively wet patch surfaces after placement or as an aid to troweling. Limit surface water addition to light misting and do not wet or rework repeatedly.
- I. After filling, consolidate and screed. Allow concrete to set to desired stiffness, finish with trowel for smooth surface. Broom or burlap drag for rough surface.
- J. Moist curing with clean wet burlap should commence immediately after finishing. Observe the curing requirements for each day's working conditions. Protect newly applied material from rain, sun and wind until compressive strength is 70% of the 28-day compressive strength.

3.04 ADVERSE CONDITIONS

A. Hot Weather Requirements:

- 1. Patching concrete deposited in hot weather shall not have a placing temperature that will cause difficulty from loss of slump, flash set or cold joints.
- 2. Concrete temperature shall be less than 90°F unless higher temperatures are permitted by Manufacturer and Owner.

B. Cold Weather Requirements:

- 1. Adequate equipment shall be provided for heating concrete materials and protecting concrete during freezing or near freezing weather. No frozen materials or materials containing snow or ice shall be used.
- 2. All reinforcement, forms, fillers and ground with which the concrete is to come in contact with shall be free from snow and ice. Whenever the temperature of the surrounding air is below 40° F, all concrete places in forms or on surfaces to be repaired shall have a temperature of 45° F or higher after placement. Adequate means shall be provided for

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maintaining this temperature for 4 days. In either case, any additional time necessary to ensure proper curing of the concrete shall be provided as directed by the Owner. The housing, covering or other protection used in connections with curing shall remain on place and intact at least 24 hours after the artificial heating is discontinued. No salt, chemicals or admixtures shall be used to prevent freezing.

3.05 SURFACE SEALANT

- A. At the completion of all the repair work, exposed concrete surfaces of the tank foundations shall be coated with an approved non-vapor barrier, water and chloride ion-repellent impregnation sealant applied in accordance with the manufacturer's recommendations.
- B. Surfaces to receive sealant shall be clean, dry and sound. Remove all grease, curing compounds, surface treatments, coatings, oils, etc.

3.06 CONTRACTOR WARRANTY

- A. The Contractor shall warranty the finished repair to be free of defects and failures for a period of not less than 1 year from the date the repair work is accepted by the Water Division.
 - 1. Defects shall be defined as excessive pitting, scaling, or other signs of surface deterioration.
 - 2. Failures shall be defined as pop outs, delamination of patched areas to original concrete surfaces, spalls, edge lifting at the perimeter of the patched area, and disintegration of the concrete patches.
- B. If defects occur through no fault of the Owner within one year after acceptance of the repair, the contractor shall correct defective areas at no cost to the Owner to the satisfaction of the Owner.

END OF SECTION

SECTION 09000

STEEL WATER TANK AND MISCELLANEOUS PIPE COATINGS

PART 1.00 GENERAL

1.01 SUMMARY

A. Section Includes:

1. Work under this section consists of surface preparation, priming and finish painting necessary to complete work.
2. Use coating systems specified in this section to finish all water tank components, unless otherwise indicated. Without restricting volume or generality, work to be performed under this section includes, but is not limited to:
 - a. Exterior steel
 - b. Interior steel
 - c. Piping, ladders, railing systems, man ways and accessories

A. Related Work Described Elsewhere:

Section 13410 – Water Storage Tanks Renovation

1.02 REFERENCES

A. Publications listed herein are part of this specification to extent referenced.

B. American Society for Testing and Materials:

1. ASTM D16 Terminology Relating to Paint, Varnish, Lacquer, and Related Products
2. ASTM D3359 Test Method for Measuring Adhesion by Tape Test
3. ASTM D1005 Test for determining dry film thickness
4. ASTM D4417 Test for determining surface profile

C. The Society for Protective Coatings:

1. SSPC-SP1 Specification for Solvent Cleaning
2. SSPC-SP2 Specification for Hand Tool Cleaning
3. SSPC-SP3 Specification for Power Tool Cleaning
4. SSPC-SP5 Specification for White Metal Blast Cleaning
5. SSPC-SP6 Specification for Commercial Blast Cleaning
6. SSPC-SP7 Specification for Brush-Off Blast Cleaning
7. SSPC-SP10 Specification for Near White Metal Blast Cleaning
8. SSPC-SP11 Specification for Power Tool Cleaning to Bare Metal
9. SSPC-PA1 Painting Application Specification
10. SSPC-PA2 Measurement of Dry Paint Thickness with Magnetic Gages
11. SSPC-SP12 Water Jetting

D. The National Association of Pipe Fabricators:

1. NAPF 500-03 Surface Preparation Standard for Ductile Iron Pipe and Fittings

1.03 DEFINITIONS

- A. Terms "Paint" shall in a general sense have reference to, zinc primers, latex, polyurethane and epoxy type coatings and application of these materials.
- B. Dry Film Thickness (DFT): Thickness, measured in mils (1/1000 inch), of a coat of paint in cured state.

1.04 SUBMITTALS

A. Product Data:

- 1. Submit manufacturer's literature describing products to be provided, giving manufacturer's name, product name, and product line number for each material.
- 2. Submit technical data sheets for each coating, giving descriptive data, curing times, mixing, thinning, and application requirements.
- 3. Submit color charts showing manufacturer's full range of standard colors to Owner for color selection.

B. Quality Assurance Submittals:

1. Certificates:

- a. Provide manufacturer's certification that products to be used comply with specified requirements and are suitable for intended application.
- b. Submit listing of not less than 5 of paint manufacturers most recent applications in New England representing similar scope and complexity to Project requirements. List shall include information as follows:
 - i) Project name and address
 - ii) Name of Owner
 - iii) Name of Contractor
 - iv) Name of Engineer
 - v) Date of completion

2. Manufacturer's Instructions:

- a. Submit manufacturer's installation procedures, if not on product data sheets, which shall be basis for accepting or rejecting actual installation procedures.

1.05 QUALITY ASSURANCE

A. Applicator's Quality Assurance:

1. No contractor shall be considered qualified unless it has at least five years experience in the field of water tank cleaning and tank painting of similar size and complexity in New England, as determined by the Owner. Contractor shall provide references and experience description upon request of the Owner. Submit list of a minimum of 5 completed projects of similar size and complexity to this Work. Include for each project:
 - a. Project name and location.
 - b. Name of owner.
 - c. Name of contractor.
 - d. Name of engineer.
 - e. Name of coating manufacturer.
 - f. Approximate area of coatings applied.
 - g. Date of completion.
2. Provide certification that specialized equipment as may be required by manufacturer for proper application of coating materials shall be utilized.
3. The Contractor shall be a qualified rigger or shall engage the services of a qualified rigger on the job at all times when rigging is being used. The foreman in charge shall have all rigging inspected by the rigger prior to use.
4. The Contractor shall abide by all local, state and federal laws for confined space entry.

B. Products Assurance and Applicator's Qualifications:

1. Provide products from a company specializing in manufacture of coatings with a minimum of 10 years experience.
2. Field Painting Crews shall be trained in application techniques and procedures of coating materials and shall demonstrate a minimum of 5 years successful experience in such application.
 - a. Maintain, throughout duration of application, a crew of painters who are fully qualified.
3. Single Source Responsibility:
 - a. Materials shall be products of a single manufacturer.
 - b. Provide secondary materials, which are produced or are specifically recommended by coating system manufacturer to ensure compatibility of system.

B. Pre-Installation Meeting:

1. Schedule a meeting to be held on-site before field application of coating systems begins.
2. Meeting shall be attended by Contractor, Owner's Onsite Representative, Owner, Coating Applicators, and Manufacturer's representative.
3. Topics to be discussed at meeting shall include:
 - a. A review of Contract Documents shall be made and deviations or differences shall be resolved.

- b. Review items such as environmental conditions, surface conditions, surface preparation, application procedures, and protection following application.
- c. Establish which areas on-site will be available for use as storage areas and working area.

1.06 DELIVERY AND STORAGE

A. Packing and Shipping:

- 1. Deliver products in manufacturer's original unopened containers. Each container shall have manufacturer's label, intact and legible.
- 2. Include on label for each container:
 - a. Manufacturer's name
 - b. Type of paint
 - c. Manufacturer's stock number
 - d. Color name and number
 - e. Instructions for thinning, where applicable

B. Storage and Protection:

- 1. Store materials in a designated protected area, per manufacturer's printed data sheet instructions.

1.07 PROJECT CONDITIONS

A. Environmental / Job Site Special Requirements:

- 1. Apply coating materials per manufacturer's printed data sheet instructions:
 - a. Refer to specific product data sheets for minimum surface temperature requirements. Surface temperatures shall be at least 5 degrees F (15 degrees C) above dew point and in a rising mode.
 - b. Provide for proper ventilation using explosion proof equipment. Allow to run 72 hours after interior coating application.
 - c. Adequate illumination shall be provided using explosion proof lights and equipment.
 - d. Atmosphere shall be free of airborne dust.
- 2. **Contractor shall supply information in regards to means and methods to be employed during surface preparation and application of painting / coating systems to prevent migration of paint, dust, and other particulates from migrating off the site and onto abutting residential and / or commercial properties.**
- 3. **Contractor shall monitor at the property line(s) during preparation and coating procedures to insure that no off site migration is occurring.**

4. **Contractor shall be responsible for the occurrence of and all migration of paint, particulates, dust, etc. migrating off site and shall be responsible for reparation to individual private parties.**

PART 2.00 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. This specification lists specific products manufactured by Tnemec Company, Inc. of Kansas City, Missouri. Materials specified herein are cited as minimum standard of quality, which will be acceptable. Color charts showing the manufacturer's standard colors shall be submitted to the Owner for color selection.
- B. Materials specified herein shall not preclude consideration of equivalent materials. Equivalent materials shall be submitted to Owner for consideration and shall be made at least ten (10) days prior to the date of bids.
 1. Requests for substitution shall include evidence of satisfactory past performance on water tanks.
 2. Substitutions will not be considered that change number of coats or do not meet specified total dry film thickness.
 3. Contractor shall state in the bid the amount of deduct to use equivalent materials to those specified.
 4. Paints for interior wet applications must be listed by NSF International as certified for potable water contact in accordance with ANSI/NSF Std. 61, Section 5, Protective (Barrier) Materials.

2.02 WATER STORAGE TANK AND PIPING PAINTING

A. Exterior Steel (Complete Recoating) – Zinc/Epoxy/Polyurethane Coating System:

- | | |
|-----------------------|---|
| 1 st Coat: | Tnemec Series 94 H2O HydroZinc @ 2.5-3.5 mils dry. |
| 2 nd Coat: | Tnemec Series N69 Epoxoline (color) @ 4.0-6.0 mils dry. |
| 3 rd Coat: | Tnemec Series 1075U Endura Shield (color) @ 2.0-3.0 mils dry. |

Note:

1. *Tnemec Series N69F may be substituted for Series N69 when surface temperatures are below 50 degrees F. Neither shall be applied at surface temperatures below 35 degrees F.
2. The finish coat (Series 1075U) shall be roller applied.
3. Tnemec 41-39 Thinner must be used with Series 1075U (no substitutions).

B. Interior Steel Wet Areas (Complete Recoating)

- | | |
|-----------------------|---|
| 1 st Coat: | Tnemec Series 94 H2O HydroZinc @ 2.5-3.5 mils dry. |
| Stripe Coat: | Tnemec Series N140 Epoxoline @ 4-6 mils (minimum 48 hour cure time before topcoating) |

- Pit Filler: Tnemec Series 215 Surfacing Epoxy (applied in accordance with manufacturer's recommendations for use with NSF 61 top coat in immersion applications with potable water).
- 2nd Coat: One (1) Coat of Tnemec Series FC 22 (100% Solids NSF Lining) at 25.0 – 30.0 mils dry.

C. Interior Steel Non-Wetted Areas (Complete Recoating)

Interior Non-Immersion Maintenance Painting: Spot removal of all existing coatings

Surface Preparation: Remove all contamination from surfaces scheduled for painting per SSPC SP #1 Standard. Perform SSPC-SP-15 Power Tool Clean Standard following cleaning where rust, rust scale, loose and non-adhering coatings and underfilm corrosion exists. Sand lightly the remaining intact coating to “de-gloss” the existing finish. Remove all sanding debris.

1st Coat: One (1) spot coat of Tnemec Series 27WB-1211 Typoxy primer @ 3.0-4.0 mils dry to cleaned to bare metal surfaces. Overlap spot coat onto intact existing coatings to a minimum 2-inches.

2nd Coat: One (1) full coat of Tnemec Series 27WB Typoxy (color) @ 3.0-4.0 mils dry on all surfaces to be scheduled for painting.

D. Cast and Ductile Iron Piping

Interior Tank Immersion Service: Two-Coat System, One Coat NSF Polyurethane Primer, One Coat of NSF Epoxy

1st Coat: Tnemec Series 1 Primer @ 2.0-3.5 mils dry.

2nd Coat: Tnemec Series FC22 or 22 @ 20-30 mils DFT

Exposed in Vaults and Above Grade: Two-Coat System, Two Coats of Epoxy

1st Coat: Tnemec Series 69 Hi-Build Epoxoline II @ 3.0-5.0 mils dry.

2nd Coat: Tnemec Series 69 Hi-Build Epoxoline II @ 4.0-6.0 mils dry.

E. Contractor shall provide 1 gallon of each paint product (for each tank) to Owner for the purposes of touch-ups.

2.03 ACCESSORIES

A. Coating Application Accessories:

1. Provide application accessories as indicated in coating manufacturer's application instructions, including but not limited to cleaning agents, etching agents, cleaning cloths, sanding materials, and clean-up materials.
2. Material not specifically identified, but needed for proper application shall be of a quality not less than specified products.

2.04 MIXING INSTRUCTIONS

- A. Specific product mixing and thinning instructions are to be found in the manufacturer's printed data sheets.

PART 3.00 EXECUTION

3.01 EXAMINATION

- A. Site Verification of Conditions:

- 1. Examine areas and conditions under which application of coating systems shall be performed for conditions that will adversely affect execution, permanence, or quality of coating system application.

3.02 PREPARATION

- A. Protection:

- 1. Take precautionary measures to prevent fire hazards and spontaneous combustion. Remove empty containers from site at completion of each days work.
 - 2. Provide drop cloths, shields, and other protective equipment.
 - 3. Protect elements surrounding work from damage or disfiguration.
 - 4. As the work proceeds, promptly remove spilled, splashed, or splattered materials from surfaces. Leave storage area neat and clean at all times.

- B. Surface Preparation:

- 1. General Requirements:

- a. Prior to application of primer, surfaces shall be prepared to receive specified paintings system in compliance with manufacturer's recommendations and specifications of The Society of Protective Coatings as indicated in Schedule below.
 - b. Surfaces to be coated shall be clean, dry and free from dust and any foreign matter that might adversely affect adhesion or appearance.

- 2. Ferrous Metal Surfaces:

- a. **Exterior Steel (Complete Recoating):** All exterior steel shall be blast cleaned-SSPC-SP-6 Commercial Blast with minimum angular profile of 2 mils.
 - b. **Interior Steel (Complete Recoating):** All interior steel shall be blast cleaned – SSPC-SP-10 Near White Blast with minimum angular profile of 2 mils.

- 3. Cast and Ductile Iron Piping:

- a. **Interior Tank Immersion Service:** All cast and ductile iron piping inside water storage tanks shall be blast cleaned-NAPF 500-03-04 Abrasive Blast Cleaning for Ductile Iron Pipe.
- b. **Exposed in Vaults and Above Grade:** All cast and ductile iron piping exposed in vaults and above grade shall be power tool cleaned – NAPF 500-03-03 Power Tool Cleaning.

3.03 APPLICATION

A. General Requirements:

1. Apply coating systems in compliance with manufacturer's instructions and using application method best suited for obtaining full, uniform coverage and hide of surfaces to be coated.
 - a. Work shall be implemented in compliance with applicable sections of AWWA D102 and the latest revisions thereto.
2. Apply primer, intermediate, and finish coats to comply with wet and dry film thicknesses and spreading rates for each type of material as recommended by manufacturer and in accordance with SSPC-PA2.
3. Number of coats specified shall be minimum number acceptable. Apply additional coats as needed to provide a smooth, even application.
 - a. Closely adhere to re-coat times recommended by manufacturer. Allow each coat to dry thoroughly before applying next coat. Provide adequate ventilation for tank interior to carry off solvents during drying phase.
4. Employ only application equipment that is clean, properly adjusted, and in good working order, and of type recommended by coating manufacturer.
5. After surface preparation, spot primer on interior weld seams shall be brush applied. Thinning: Thinning requirements for specified products are to be found in the paint manufacturer's printed data sheets and are to be strictly adhered to. Note: Only Tnemec NSF approved thinners must be used – no substitutions.

B. Disinfection and Filling of Tank:

1. Provide adequate ventilation for proper drying of paint on interior surfaces and which will remove solvent vapors.
2. A manufacturer approved physical test (i.e. solvent wipe test, pencil hardness test or approved test method) shall be performed on the completed interior coating surface to insure that the coating system is fully cured. Proper documentation shall be provided to the Town. In addition, Contractor shall complete and submit a copy of the RIDOH – Certification of Adequate Curing of Tank Coating Form contained in Appendix D of this document.

3. Contractor shall be required to comply with the Rules and Regulations Pertaining to Public Drinking Water (R46-13-DWQ) page 17 sections 4.2 regarding curing of coatings systems as follows.

“4.2 All newly constructed PWSs or additions to existing systems shall be flushed, adequately disinfected, and the water examined for the presence of coliform organisms in accordance with Appendix 1. No system shall be placed in use until such examination discloses the absence of coliform organisms. Any newly constructed or recoated water storage tank shall be tested for volatile organic compounds (VOCs) prior to being put into service. If VOCs reported are above the laboratory detection limit and/or background source limit, the water system shall flush and/or drain the tank, refill and analyze for VOCs until such time as the concentrations reported are below the laboratory detection limit. An alternative to refilling and retesting shall be to submit documentation acceptable to the Director that the tank coating was NSF Standard 61 approved, was mixed properly and has cured properly. Any waste water resulting from disinfection must be disposed of in accordance with applicable Federal, State and Local regulations, and with the proper permits.”

4. Following final application, tank shall not be disinfected or filled until coating system is fully cured.
5. Refer to applicable product data sheet(s) for dry time/temperature requirements. Disinfection and tank filling shall be as specified in Section 13410.

C. Interface with Other Work:

1. Allow a minimum of seven days curing time after application of final coat to tank interior before flushing, disinfecting or filling with water.

3.04 REPAIR / RESTORATION

- A. At completion of Work, touch-up and restore finishes where damaged.

B. Defects in Finished Surfaces:

1. When stain, dirt, or undercoats show through final coat, correct defects and cover with additional coats until coating is of uniform finish, color, appearance and coverage.

- C. Touch-up of minor damage shall be acceptable where result is not visibly different from surrounding surfaces. Where result is visibly different, either in color, sheen, or texture, recoat entire surface.

3.05 FIELD QUALITY CONTROL

- A. Inspector's Services: Services for inspection of surface preparation, coatings application and related work shall be performed by an independent firm as designated and hired by the Owner. Contractor shall coordinate directly with the designated inspection firm to schedule all inspection and observation of the work as required.

1. Documents:

- a. Review Contract Documents and applicable sections of referenced standards.
 2. Field Painting Inspection:
 - a. Verify cleaning operations to surfaces are to condition specified.
 - b. Verify conformance of paint to specification.
 - c. Check for thickness of each coating.
 - d. Check touch-up for final finish.
 - e. Contractor will have both wet and dry film gauges onsite for inspector's use.
 3. Reports:
 - a. Submit written progress reports describing inspections made and showing action taken to correct non-conforming work. Report uncorrected deviations from Contract Documents.
- B. Manufacturer's Service:
1. A representative of the paint manufacturer shall be available to provide on-site technical assistance, and guidance for application of the paint system as needed.
- 3.06 PROTECTION
- A. Protect painted areas against damage until paint system is fully cured.
- 3.07 WASTE MANAGEMENT
- A. General Requirements:
1. Place materials defined as hazardous or toxic waste in designated containers.
 2. Return solvent and oil soaked rags for contaminant recovery and laundering or for proper disposal.
 3. Do not dispose of paints or solvents by pouring on ground. Place in designated containers for proper disposal.
- B. Containment/Disposal Requirements:
1. Surface Preparation Debris Containment:
 - a. When required by federal, state or local regulation, entire tank and structure shall be enclosed and surface preparation debris contained.
 - b. Refer to SSPC 61 Guide for Containing Debris Generated during Paint Removal Operations.
 2. Disposal of Surface Preparation Debris:
 - a. Surface preparation debris shall be disposed of in compliance with applicable federal, state and local regulations.

3.08 ONE YEAR ANNIVERSARY INSPECTION

- A. Owner shall set a date for a one-year inspection.
- B. Inspection will be attended by owner's representative and painting contractor.
- C. Any deficiencies in the coatings system will be repaired at the contractor's expense.

END OF SECTION

SECTION 10930

PERSONNEL AND ENVIRONMENTAL PROTECTION

PART 1.00 - GENERAL

1.01 WORK INCLUDED

- A. This work shall consist of providing protection for both persons on site and adjacent to the sites (abutters) and the environment during the blast cleaning operations of existing structural steel prior to the recoating /rehabilitation of said steel tank structures in accordance with these specifications.
- B. This provision covers the requirements for removal and containment of paint and/or corrosion products from the tanks or specified appurtenances during blast cleaning operations.
- C. The Contractor shall provide all labor, equipment, materials and accessories necessary to ensure that contractor's personnel, representatives of the Owner, Owner, general public and environment are protected from the harmful affects of lead, blast media and fumes associated with the project.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 09000 - Steel Water Tank and Miscellaneous Pipe Coatings
- B. Section 10940 - Industrial Hygiene Services
- C. Section 13410 - Water Storage Tank Renovation

1.03 NOTIFICATION TO CONTRACTOR

- A. **The contractor is hereby notified that the existing paint (coating) systems on the tank structures contain toxic substances such as lead, and that these substances may be considered hazardous wastes when removed.**

1.04 LEGAL RESPONSIBILITY OF CONTRACTOR

- A. The contractor is directed to applicable sections of the General Conditions of the Contract Documents that stipulate the contractor is hereby notified that the existing paint (coating) systems on the tank structures contain toxic substances such as lead, and that these substances may be considered hazardous wastes when removed.
- B. The contractor shall assume all responsible charge of the worksites and shall conform with all Federal, State, and Municipal Laws relating to the work.
- C. According to State and Federal Regulation, the Narragansett Water Division is classified as the "generator" of the waste and is therefore directly responsible to ensure compliance with the applicable laws and regulations for storage, handling and disposal of generated wastes. The contractor shall be liable to the Narragansett Water Division for any fines, penalties or remediation costs incurred by the Narragansett Water Division as a result of the contractor's failure to comply with either the applicable laws and regulations or these specifications.
- D. Disposal of all waste materials from this project shall be conducted in a manner that will assure compliance with approved methods. Weight slips for disposed materials shall be verified by

balancing with materials generated on site. Proper "Chain of Custody" procedures shall be adhered to throughout the course of the project. **The Narragansett Water Division shall not be responsible or liable for the materials disposed.**

1.05 CONSTRUCTION PROCEDURES

- A. General: The contractor shall be responsible for providing adequate protection for pedestrian, vehicular and other traffic upon and underneath structures in accordance with these specifications and any additional provisions of these sections. The guidelines of SSPC Guide 6 for containment systems shall be adhered to throughout the project.
 - 1. Provisions for protection shall provide for a barrier that protects residences, other properties, vehicles, vessels or pedestrians from direct or indirect exposure to the blasting and painting operations and prevents abrasive materials or debris or paint from falling onto traveled portions of the roadway, into waterways or any other place where a traffic hazard may be created. Whenever the intended purpose of the protective devices is not being accomplished, work shall be suspended until corrections are made.
 - 2. Covering or shielding shall protect any and all portions of the structure and its appurtenances that could be damaged by the blast cleaning operations.
- B. Containment: Total containment of all debris or spent materials is required during the blast cleaning operations or subsequent air blowing or vacuuming of the work areas.
 - 1. Containment, Collection, Storage, and Disposal of debris and spent materials shall be performed in accordance with the Special Provisions contained in the Contract Documents. Additionally, all containment, collection, storage and disposal of debris and spent materials resulting from the cleaning operations shall comply with the latest rules, regulations, requirements, standards and/or procedures of the following agencies which shall include, but not necessarily be limited to; the following:
 - a. The Environmental Protection Agency, 40 CFR Part 745 "Lead; Requirements for Lead Based Paint Activities".
 - b. Rhode Island Department of Environmental Management; Division of Waste Management:
 - (1) Air Pollution Control Regulation No. 5, "Fugitive Dust".
 - (2) "Air Pollution Control Regulation No. 24, Removal of Lead Based Paint From Exterior Surfaces".
 - (3) "Rules and Regulations for Hazardous Waste Generation, Transportation, Treatment, Storage, and Disposal".
 - (4) "Rules and Regulations for Solid Waste Management Facilities".

1.06 PERSONNEL PROTECTION

- A. Painting and Cleaning Operations. During Painting and Cleaning Operations, the Contractor must assure that the workers engaged in the removal of lead based paints and blast cleaning operations, both those of the Contractor and the State, are adequately trained, protected,

equipped, and monitored against the harmful effects of lead and blast media during all phases of the painting operations. Personnel protection and all of its related activities and requirements shall be performed in accordance with the Special Provisions contained in the Contract Documents. Additionally, all monitoring respiratory protection, protective clothing, housekeeping and hygiene, medical surveillance, medical protection, training, signs and record keeping shall comply with the latest rules, regulations, requirements, standards and/or procedures of the following agencies, which shall include, but not necessarily be limited to, the following:

1. The Occupational Safety and Health Administration, 29 CFR Part 1926 as well as and more specifically Part 1926 as well as and more specifically Part 1926.62, "OSHA Standard for Lead in the Construction Industry" with appendices; A - "Substance Data Sheet for Occupational Exposure to Lead", B - "Employee Standard Summary", C - "Medical Surveillance Guidelines", and D - "Qualitative and Quantitative Fit Test Protocols".
 2. Rhode Island Department of Health, Environmental Lead Program, "Rules and Regulations for Lead Poisoning Prevention as applicable.
- B. The above documents should be available as applicable through the U.S. Department of Labor, Occupational Safety and Health Administration, Providence Office, 280 Westminster Street, Providence, Rhode Island.
- C. The contractor shall be responsible for providing the necessary testing, protective clothing and facilities as required by the above cited and all applicable documents and regulations.

1.06 SUBMITTALS – HEALTH AND SAFETY PLAN

- A. The contractor shall be responsible for preparing and maintaining a Worker Health and Safety Plan in accordance with OSHA requirements for all applicable hazards associated with the project. A copy of this plan shall be made provided to the Owner prior to beginning the project. It shall be the responsibility of the contractor that this plan conforms to applicable requirements of OSHA and contractor shall identify a designated on site representative (Safety Officer) in responsible charge for administering and monitoring the requirements of the plan.
- B. This plan shall include provisions for onsite representatives of the Owner and the Owner's representatives.

PART 2.00 – PRODUCTS

Not Used

PART 3.00 – EXECUTION

Not Used

END OF SECTION

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SECTION 10940

INDUSTRIAL HYGIENE SERVICES

PART 1.00 - GENERAL

1.01 WORK INCLUDED

- A. Contractor shall employ and pay for the services of an independent (third party) Industrial Safety and Hygiene testing and safety firm to monitor all health and safety aspects of the work. This firm shall be responsible for provision of health and safety program compliance for the tank project which includes lead removal, blasting, painting and chemical testing for blood lead levels (as required by law), soil lead levels, air quality monitoring and proper safety and decontamination procedures.
- B. Contractor shall employ the services of such firm throughout the project. Contractor shall cooperate with the industrial hygiene firm to facilitate the recommended programs.
- C. The employment of the Industrial Safety and Hygiene firm shall in no way relieve the Contractor's obligation to perform the work of the contract or his responsibilities to adhere to all health, safety, environmental and regulatory laws, regulations or statutes.
- D. The Industrial safety and Hygiene firm shall supply a weekly written report to the Narragansett Water Division outlining the contractor's adherence to the health and safety program.
- E. The Contractor shall make adequate provision for additional personnel to enter the sites and shall provide all necessary or required testing and safety equipment. Assume a maximum of five (5) additional individuals at any given time other than those workers anticipated by the Contractor.
- F. At the completion of the project, final reports specific to the project sites will be made by the industrial hygiene firm covering all aspects of the work, testing, results and related issues as a permanent record to the Narragansett Water Division.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 09000 – Steel Water Tank and Miscellaneous Pipe Coatings
- B. Section 10930 – Personnel and Environmental Protection
- C. Section 13410 – Water Storage Tank Renovation

1.03 QUALITY CONTROL

- A. The contractor shall comply with the requirements of Section 10930 – Personnel and Environmental Protection. This includes submission of the Worker Health and Safety Plan (Plan) to the Owner prior to the beginning of the project.
- B. The Plan shall be prepared and administered by an approved Industrial Safety and Hygiene firm and the cost of which shall be included in contractor's bid. The Industrial Safety and Hygiene firm will monitor, oversee and periodically report on the Contractor's compliance to the Narragansett Water Division with an approved program that will meet or exceed the local, state or federal guidelines for

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worker health, training and safety as well as environmental regulations. The program shall include but not be limited to the following:

1. On site soil metals concentrations at various locations on the project sites before and after the project. Provide site plans and locations of sample collections.
2. Worker blood lead levels before, during and after the project.
3. Worker decontamination procedures i.e. disposable suits, showers, clothing changes, eating areas, etc.
4. Proper handling of spent abrasive materials including lead paint, flakes, paint dust, grit, etc.
5. Proper training and use of all breathing apparatus, fall prevention devices and rescue equipment. Phone on site with emergency numbers.
6. Air monitoring and sampling for compliance with applicable regulations.
7. Proper collection procedures for spent materials, tarping ground, screens, encapsulation, or other.

- C. The programs shall be well thought out and specific to the specific project site while accounting for various site conditions.
- D. Failure of the bidder to completely and fully address this program will constitute a non-responsive bid and be cause for rejection.

1.04 ASSESSMENT REPORT(S)

- A. The Contractor at the completion of the project and at the intermediate times described herein shall provide the Narragansett Water Division with complete records of all the documents and activities occurring on site including but not limited to the following: daily work reports, weather conditions, mitigating factors, activities by regulatory agencies in monitoring or guiding the work, disposal records and test results and data derived from containment, ventilation, air and soil monitoring.

1.05 APPLICABILITY / NOTIFICATION

- A. The Contractor shall account for the cost of adherence to these Federal and other State and Local air quality and worker safety and proper disposal practices of all contaminated wastes in the lump sum cost for his work.
- B. All workers shall be provided with a copy of these standards and shall be thoroughly familiar with the consequences of exposure to lead, dust silica, paint fumes, and other related materials for this project. Welders shall also wear protective gear - employees or subcontractors shall be subject to the same regulations.

1.06 INFORMATION RELIANCE

- A. Sample analysis results of the paint materials and lead content have been listed as information to prospective bidders. It is recommended that the contractor conduct his own evaluation and assessment of the materials present on the tank facilities, soils, or elsewhere on the sites.

1.07 CONTRACTOR'S RESPONSIBILITY

- A. Disposal of all waste materials from this project shall be conducted in a manner that will assure compliance with approved methods. Weight slips for disposed materials shall be verified for by

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balancing with materials on site. Proper chain of custody procedures shall be adhered to. The Narragansett Water Division shall not be responsible or liable for the materials disposed.

PART 2.00 – PRODUCTS

Not Used

PART 3.00 – EXECUTION

Not Used

END OF SECTION

SECTION 13410

WATER STORAGE TANK RENOVATION

PART 1.00 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the contract, including General and Supplementary Conditions, apply to work of this section.

1.02 DESCRIPTION OF WORK

Kinney Avenue Tank (including Alternate Items)

- A. Exterior tank surface paint preparation and recoating.
- B. Non-wetted interior surface (interior condensation surface) paint preparation and recoating.
- B. Non-wetted interior surface (above condensate ceiling) paint preparation and recoating.
- C. Miscellaneous concrete foundation repairs (remove mastic sealant, non-shrink grout fill, etc.).
- D. Clean existing foundation and apply epoxy resin concrete penetrating sealer and new grout.
- E. Repair and refurbishment of existing anchor bolts, nuts and chair assemblies as required.
- F. Non-wetted interior surface (below condensate ceiling) paint preparation and recoating.
- G. Clean and recoat valve vault piping.
- H. Install clog-resistant roof vent.

North End Tank (including Alternate Items)

- A. Exterior tank surface paint preparation and recoating.
- B. Interior tank surface paint preparation and recoating.
- C. Miscellaneous concrete foundation repairs (remove mastic sealant, non-shrink grout fill, etc.).
- D. Clean existing foundation and apply epoxy resin concrete penetrating sealer and new grout.
- E. Repair and refurbishment of existing anchor bolts, nuts and chair assemblies as required.
- F. Install clog-resistant roof vent.
- G. Revolving ladder modifications and repairs.
- H. Clean and recoat fill/draw piping and valve vault piping.

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- I. Install new 30-inch shell access man way.

1.03 EXISTING / BACKGROUND CONDITIONS

- A. ***Lead based paint systems have been identified on the existing tank structures, which are situated in predominately residential areas. Contractor shall take applicable precautions as described in these contract documents and shall be responsible for adhering to all applicable local, state and federal rules and regulations governing same.***
- B. Reference attached tank inspection reports for the water storage tanks in Appendices B and C of this document.
- C. Damage including environmental contamination caused by the contractor to the existing sites and / or adjoining properties shall be repaired to the complete satisfaction of the Narragansett Water Division, and private property Owner and RIDEM where applicable, at no additional cost to the Town of Narragansett.

1.04 RELATED WORK

- A. Prime and finish coating of all steel tank surfaces and appurtenances, and all piping systems is specified in Section 09000 – Steel Water Tank and Miscellaneous Pipe Coatings.
- B. Concrete foundation repairs and concrete surface treatments are specified in Section 03730 – Concrete Foundation Rehabilitation.

1.05 SUBMITTALS

- A. The Contractor shall submit a site plan and work performance procedure to the Owner for review. Contractor shall show the dust containment method and space requirements. The plan shall show blowers, filters, air locks, accessories, indicate abrasive media, abrasive additive, dust containers and disposal method.
- B. The Contractor shall submit the containment methods to the Rhode Island Department of Environmental Management, applicable Divisions as required, for review and approval prior to beginning work in order to obtain the proper work permits. The Contractor will pay all costs associated with obtaining permits.

1.06 QUALITY ASSURANCE

- A. Quality assurance procedures and practices shall be utilized to monitor performance and air quality adjacent to the containment area. Reference Section 10940 – Industrial Hygiene Services.
- B. The contractor shall be responsible for completing an assessment of the project tank sites prior to start of sand blasting and/or removal of coatings. This shall include an assessment of the onsite soils (8 samples minimum to be analyzed for total lead) and air quality to establish a baseline of existing conditions. A proposed sampling plan shall be submitted to the Owner prior to start of project. The Contractor shall clearly locate the locations of the samples in the field and on a site plan with a minimum of two ties to fixed objects. No work shall begin prior to completion of the initial baseline site assessment. All sampling is to be performed and analyzed by a certified Rhode Island laboratory with results submitted to the Owner. All sampling shall be performed in the presence of the Owner.

- C. Upon completion of the rehabilitation project, the contractor shall conduct a follow up assessment of the project tank sites. This shall include assessment of onsite soils and air quality monitoring results taken during sand blasting operations. A minimum of six (6) pre condition and a minimum of six (6) post condition soil samples shall be collected. All sampling to be performed and analyzed by a certified Rhode Island laboratory with results submitted to Owner. Contractor shall submit a final written record/report of the assessment of the site following completion of the tank rehabilitation project. Contractor shall pay for the cost of analytical testing for all pre and post soil samples.
- D. **If the results of post analytical testing at the tank sites reveal total lead concentrations in the soil have increased by more than 50 mg/kg (or less if stipulated by Federal, State or Local Laws and Regulations), then the Contractor will be required to undertake remedial measures as required by Federal, State or Local agencies having jurisdiction at no additional cost to the Owner. The cost of the site cleanup and any additional sampling or incidental costs shall be paid for by the Contractor at no additional cost to the Owner.**
- E. In the case of the Kinney Avenue Tank the interior of the non-wetted portions of the tank below the condensate ceiling are currently being utilized as office space and material storage for the Town's Water Department. There is an Alternate Bid Item to recoat the exposed walls in these areas. In either case (whether or not this Alternate Item is selected by the Town) the Town will be responsible for the removal of office and storage equipment and materials from these areas prior to any painting of interior spaces of the tank (either above or below the condensate ceiling). Once all painting is complete, the contractor will be responsible for thoroughly cleaning all internal areas of lead paint ensuring that no lead paint or debris remains in the interior tank spaces and other work debris from the painting processes so that it can be returned to the same condition prior to recoating and be reutilized for its current uses.
- F. Quality assurance procedures and practices shall be utilized to monitor all phases of surface preparation and inspection throughout the duration of the project. A written record shall be maintained for: temperature/dew point, surface profiles of blast-cleaned surfaces. Copies of all records shall be made available to the Owner at no cost to the Owner.
- G. Steel surfaces preparation will be based upon comparison with "Pictorial Surface Preparation Standards for Painting Steel Surfaces" SSPC-Vis 1-89 Visual Standard for Abrasive Blast Cleaned Steel (see Section 09000 for surface preparation schedule).
- H. The Owner shall hire a qualified tank inspection firm to observe contractor's activities on site during the course of the contractor's work. Contractor shall to the extent practical shall coordinate his work effort with the observer and keep observer informed of project progress.
- I. Additional personnel representing the Owner and Owner shall periodically visit the sites to observe progress. Contractor shall to the extent practical shall coordinate his work effort with these personnel and keep personnel informed of project progress.

1.07 COORDINATION

- A. Coordination of abrasive blasting, pressure washing, and other specified surface preparation, of the interior and exterior tank surfaces shall be made with the General Contractor. Surface preparation shall not commence until the Painting Contractor is ready on site with all materials and equipment.
- B. **Coordination with telecommunications company representatives is required to arrange for protection, removal, relocation, and / or reinstallation of existing cellular telecommunication**

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equipment and appurtenant installations on or adjacent to the tank structures as necessary to accommodate the tank rehabilitation work.

1.08 WARRANTY OF CONSTRUCTION

- A. Reference warranty and maintenance bond provisions contained in Division 0 and Section 09000 – Steel Water Tank and Miscellaneous Pipe Coatings.

PART 2.00 - PRODUCTS

2.01 GENERAL CONDITIONS

- A. All materials used to perform the work shall be designed for the purpose and have a certificate of compliance to ANSI/AWWA D100 or ANSI/AWWA D110, the latest revision as applicable.

2.02 CLOG-RESISTANT ROOF VENTS

- A. Roof vents shall be sized to provide a free ventilation area no less than that of the tanks' existing vent roof openings. The vents shall be bolted flange mounted to provide a readily removable installation. The vents shall be designed and constructed to prevent the entrance of birds and animals. The vents shall have insect screening and shall be provided with a pressure-vacuum relief or mechanism to ensure failsafe operation in the event that the screen frosts over or becomes clogged. The pressure-vacuum relief / mechanism shall not be damaged by its operation and shall return to normal position after clogging is cleared. The vents shall conform to current AWWA D100 Standard Section 7.04 Access. Roof vents shall be fabricated primarily of aluminum or stainless steel.

2.03 MANWAYS, SHELL

- A. All existing shell man way(s) shall be inspected and refurbished. The contractor shall install the appropriate number of new $\frac{3}{4}$ " bolts, nuts and washers all 304L stainless steel. The gasket shall be replaced and be of the full-face type design.
- B. Furnish and install new shell man way(s) where indicated on the plans. Shell man way(s) shall be 30-inch diameter with hinged, bolted flange access cover. Design, reinforcement, and installation shall conform in all respects to the requirements of AWWA D100 Standard Section 7.04 Access.

2.04 ABRASIVE MEDIA

- A. The selection of the abrasive media shall be based on the surface preparation called for and the angular surface profile desired. The abrasive used in the blast cleaning operation shall be new, washed, graded and free of contaminants.
- B. The use of an abrasive additive will be at the option of the Contractor. An additive must have been shown to be an effective alternative to hazardous waste disposal and be recognized by organizations such as SSPC, JPCC, NACE, Material Performance, AWWA, WWD, WEM, Lead Detection & Abatement Contractor, Deleading and BIC. Consideration can be given to "Blastox" of the TDJ Group, Inc. or "Pretox". The use of an additive in no way relieves the Contractor from conforming to safety and OSHA requirements. All testing will remain in effect. The abrasive additive shall be homogeneously mixed with the abrasive at an approved facility.

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2.05 POLYURETHANE SEALANT

- A. Apply sealant and polyethylene bond breaker tape at locations as indicated and as directed. Prepare surface and install (apply) in accordance with manufacturer's instructions.
- B. The joint sealant shall be a two-component, non-sag or self-leveling, polyurethane-base material Sikaflex or approved equal. It shall be applicable in horizontal, vertical, and overhead joints. The sealant shall be principally a chemical cure to form an elastomeric substance.
- C. Any primers, as required, recommended by the manufacturer of the specified product, approved by the Owner.
- D. Backer rod or bond breaker tape, as approved by the Owner.

2.06 ROOF LADDERS, SAFETY HANDRAILS AND GUARD RAILS

- A. Install handrails and guardrails at locations shown on drawings and in compliance with OSHA standards. Minimum height of 42". Components shall be welded to top of steel tank surface or to the tank shell and meet the following criteria.
 - 1. Guardrails shall be designed to withstand a uniform horizontal load of 50 pounds per foot with a simultaneous vertical load of 100 pounds per foot applied to the top rail.
 - 2. Handrails shall be designed to withstand a uniform horizontal load of 50 pounds per foot applied to top rail.
 - 3. In addition, handrails and guardrails shall be designed to withstand a concentrated load of 200 pounds applied in any direction at any point on the railing system.
 - 4. All handrail and guardrail locations to be supplied with structural kick plate. Kick plate for steel rails shall be 4" by 1/8" steel plate. Kick plate for aluminum rails shall be 4" by 1/4" aluminum plate.
- B. All railings at steel tanks shall be minimum 1 1/4" by 14 gauge horizontal square tube or 1 1/4" structural welded round pipe with Schedule 40 thickness. All railings rounded or square shall have continuous top rail with smooth transitions.
- C. Intermediate rail and post support spacing shall be provided to meet design criteria and OSHA requirements.
- D. Attachment of posts and supports shall be with welded plate to steel roof deck. No through penetrations shall be permitted.
- E. Finish of railing and guardrail system shall be consistent with that specified for tank exterior steel surfaces.
- F. Roof ladder side rails shall be 2 1/2" by 1/2" steel bar fabricated to match existing tank roof curvature. Rungs shall be 3/4" diameter bars spaced at 12" on center. Support clips, for both new and existing roof ladders, shall be 4" by 1/2" steel bar. Length of support clips shall match existing ladder height above roof surface (8" minimum to rungs).

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PART 3.00 - EXECUTION

3.01 GENERAL

- A. The tank facilities are located in predominately residential areas with close proximity to housing proposing severe contaminant risks. There generally is sufficient room within the confines of the tank sites for moderate size Contractor's equipment, rigging and vehicles. The areas around the tanks will require the use of extensive containment methodologies.
- B. The Owner shall drain each tank to the level of the silt stop. The Contractor shall be responsible for completely removing all remaining water, ice, and silt, and any other accumulated debris, materials, and contaminants from inside the tanks as needed to proceed with tank rehabilitation. Contractor shall be responsible for the proper off site disposal of all removed contents from the tanks.

3.02 WELDER QUALIFICATIONS

- A. All welders shall be qualified by ASME Section 1 X requirements for all positions. Certification shall be provided to the Owner.

3.03 ACCESSORY INSTALLATION

- A. All tank accessories shall be installed in strict accordance with manufacturer's written direction.

3.04 COORDINATION

- A. All repairs, renovations and site work will be coordinated. Careful consideration will be made in regard to the renovation of the tanks and the coatings of the tanks. The Painting Contractor shall be on site with paints, materials, scaffolding, ladders, illumination, additional ventilation, and painting hazardous waste disposal containers. Painting Contractor will be prepared to start the work at the direction of the Contractor.
- B. Coordination with telecommunications company representatives is required to arrange for protection, removal, relocation, and / or reinstallation of existing cellular telecommunication equipment and appurtenant installations on or adjacent to the tank structures as necessary to accommodate the tank rehabilitation work.

3.05 INSPECTION

- A. The tanks Owner's onsite representative, to be hired by the Owner, will inspect the renovations to the tank work, including new welding. Pit repair and renovations will be at their direction. Pits will be marked according to the method of repair. The inspector will direct the Painting Contractor to commence work once repair activities have been affected and are satisfactory.

3.06 ACCESSORIES

- A. The Contractor shall install new tank accessories before commencing with the abrasive blasting operations. Blasting shall follow the tank preparations as follows.

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3.07 TANK REPAIRS

- A. The Contractor shall repair all steel deficiencies and install tank accessories before commencing with surface preparations. Existing attachments shall be checked for structural integrity. Coordination with Painting Contractor will determine the need and location of new attachments. New attachments will be at the expense of the Painting Contractor.
- B. Once the interior shell surfaces have been abrasive blast cleaned, all areas of metal loss (pits) representing a 40% or greater reduction in corresponding plate thickness shall be spot welded sufficiently as to bring these pits flush with original wall surfaces.
- C. Areas that develop holes either during abrasive blast cleaning and/or welding, or represent concentrated metal loss should have a new steel plate(s) welded into place on the interior, and spot welded and ground on the exterior. The interior steel plate should be of sufficient size as to tie into sound metal and have at least a 1/4-inch continuous fillet weld around the entire plate. The thickness of the steel patch plate should be based on location as well as size and purpose of the patch, however the minimum thickness should be no less than 1/4-inch. Holes will be cut or drilled through square to the surface and plug welded and ground smooth on the exterior.
- D. Areas of excessively rough surface profile, weldment and/or metal loss representing less than a 30% reduction in wall thickness should be coated with a trowel grade surfacer, so as to bring these surfaces level with the original plate surfaces. This procedure will help to maintain the continuity of the applied coating system. This will be applied by the Painting Contractor under specification Section 09000 Steel Water Tank and Miscellaneous Pipe Coatings.
- E. Welding rods and steel repair plates shall be as outlined in ANSI/AWWA D100 latest revision.
- F. The existing steel tank vents shall be removed and replaced, as indicated on the drawings. Furnish and install new flange on existing tank vent openings to receive and support new vent installations.

3.08 SURFACE PREPARATION

- A. Prepare steel and other ferrous metal surfaces as specified in Section 09000.
- B. Prepare concrete foundations and other exterior concrete surfaces as specified in Section 03730.

3.09 CONTAINMENT OF DEBRIS

- A. Containment of debris generated during the removal of the exterior coating system shall conform to the Steel Structures Painting Council SSPC-Guide 6 (CON), federal and state regulations. Federal, state and local permits shall be obtained and paid for by the Contractor.
- B. The containment shall encapsulate the work area of the entire structures to ensure collection of all cleaning particles generated so as not to impact the sites and adjacent properties.
- C. The containment systems for the two tanks shall conform to Class 1A System:
 - 1. Containment Materials: Type A2-Flexible (plastic sheeting-shrink wrap)
 - 2. Penetrability of Containment: Type B1-Air Impenetrable
 - 3. Support Structure: Type C1-Rigid Support Structure
 - 4. Joists: Type D1-Fully Sealed Joints

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5. Entryway: Type E1-Entryway through Airlocks with Resealable Doors
 6. Air Make-Up (Intake): Type F1-Controlled Air Supply
 7. Input Air Flow: Forced Input Air Flow
 8. Air Pressure: Visual Verification
 9. Air Movement: Type 11
 10. Exhaust Dust Filtration: Type J1-Air Filtration Required
- D. During sandblasting of the exterior surfaces, either a recyclable grit or waste minimization additive such as "Blastox" or "Pretox" may be used.
 - E. Surface preparation debris shall be disposed of in accordance with Federal and State regulations on solid and hazardous waste. The disposal site shall be licensed by the appropriate State and Federal agencies and a copy of the license shall be submitted to Owner. The Contractor shall submit the manifest from the disposal site to the Owner.
 - F. Assessment of the Quantity of Emissions: The following methods for monitoring the work areas shall be employed:
 1. Method D - EPA Ambient Monitoring for Toxic Metals
 2. Method E - Soil Analysis for Toxic Metals in accordance with pre and post-monitoring plan.
 3. Certified copies of the analysis shall be submitted to the Owner.
 - G. The Contractor shall submit to the Owner the proposed containment system and Monitoring Program for the tank sites. Controls shall be suitable to contain all wash water, dust, waste materials, spoils, debris, etc. within the work area and prevent any off site migration or other environmental impact.
 - H. The Contractor shall provide the Owner with complete records of all the documents and activities, including work reports, weather conditions, mitigating factors, activities by regulatory agencies in monitoring or guiding the work, disposal records and test results and data derived from containment, ventilation, air and soil monitoring.
 - I. Loose surface lead dust shall be removed from equipment, containment materials and other reusable items prior to transportation off-site.

3.10 ENVIRONMENTAL CONTROLS – CONTAINMENT SYSTEM

- A. **Contractor shall provide all necessary equipment and controls to control the environment of the work sites such that the rehabilitation of the storage tanks can take place within the time frame specified. There will be no allowance for time extensions on the project due to weather conditions that are not conducive to tank rehabilitation. It shall ultimately be the complete responsibility of the contractor to provide adequate means and methods to create a stable and controlled environment such that the project can be completed and the tanks returned to service within the time frame specified. The following details minimum requirements for temperature and dehumidification requirements. These shall be implemented as necessary based on weather conditions at the sites.**
- B. Environmental Control: Dehumidification shall be used to control the environment in the space, twenty-four hours a day during the blast cleaning, coating application and coating cure. Equipment shall conform to the following requirements.

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1. Desiccant dehumidifiers, as manufactured by Cargocaire Corp., or equal, will be a solid desiccant design having a single rotary desiccant wheel capable of fully automatic continuous operation. No liquid, granular or loose lithium chloride drying systems will be accepted. The dehumidification system may consist of a combination of desiccant and refrigerant equipment for year round use to maintain very low dew points.
 2. Dehumidification equipment will continuously maintain a lower dew point of 15-20 degree Fahrenheit differential between the inside substrate surface temperature and the inside space air dew point temperature with an inside relative humidity not to exceed 35% to 45% during the blasting, cleaning and cure cycles.
 3. Air change rate for maintaining may be anywhere from 1.0 to 6.0 or more to hold the desired degree of cleanliness of the blast. The rate shall be determined by the volume of a given space, time of year, weather conditions and time required to hold the blast. Ancillary exhaust and/or dust collection systems can also affect the air change rate and shall be accounted for in the rate. Consult with paint manufacturer to ensure that air change rate is sufficient to maintain safe lower explosive limits in the air during applications.
- C. Temperature Control: Auxiliary heat, cooling and/or insulation may be necessary to maintain the surface temperature at an acceptable level for the coating manufacturer's application parameters. This auxiliary equipment must be approved for use by the supplier of the dehumidification equipment and will meet the following requirements.
1. Heaters and refrigerant type systems will be installed in the process air supply duct between and/or blended with the dehumidifier as close to the space as possible.
 2. Only electric, indirect fired combustion, or steam coil auxiliary heaters will be used. No direct-fired space heaters will be allowed during the blasting, coating or curing phase.
 3. Heaters shall be equipped with controls that automatically turn the heater off if the airflow is interrupted or the internal temperature exceeds its design temperature or that of the supply duct.
 4. Seal the area where dehumidification is introduced to allow the air to escape away from the entry point while maintaining a slight positive pressure unless dust from the operation is hazardous. The design of the filter system, as necessary, will be designed so that it does not interfere with the dehumidification equipment's ability to control the dew point and temperature parameters in that space. Do not recirculate the air from the space or from the filtration equipment back through the dehumidifier during the coating application or when solvent vapors are present.

3.11 CLEANING

- A. Dust and blast products should be removed from the surface of abrasive blasted steel by high-pressure air, vacuum cleaning or brushing.
- B. Hazardous dust, paint and media must be handled in a way that will meet OSHA and the Rhode Island Department of Environmental Management. It shall be placed in sealed containers for disposal off-site. Disposal manifests will be supplied to the Owner.
- C. The fill and draw line will be flushed and cleaned of all debris.

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- D. Non-hazardous material shall not be buried or disposed on site. The Contractor shall remove debris off-site for disposal at no additional cost to the Owner.

3.12 STORAGE TANK DISINFECTION

- A. The Contractor shall at the completion of the tank and before filling the tank thoroughly clean and flush the interior of the tank. Disinfection of tank interior piping, internal mixing system components and other internal tank appurtenances in contact with potable water shall be performed as specified within this section.
- B. The Contractor shall notify the Owner prior to chlorinating the tank. The disinfection procedure shall meet the approval of the Owner, AWWA C652- Disinfection of Water Storage Facilities, Method 2 (as reprinted below) and the requirements of the RI Department of Health – Division of Drinking Water Quality.

The method and sequencing for the overall disinfection of tank piping and the tank itself shall be submitted to the Owner for review and approval prior to any disinfection activities.

- C. All chlorinated water utilized as part of the disinfection process will require neutralization prior to waste. The contractor shall be solely responsible for wasting and control of chlorinated water in order to comply with Local and State Regulations and so as not to cause flooding and/or ponding of water on the sites or on neighboring properties.

Sec. 4.3.2 Chlorination Method 2

A solution of 200 mg/l available chlorine shall be applied directly to the surfaces of all parts of the storage facility, which would be in contact with water when the storage facility is full to the overflow elevation.

Sec. 4.3.2.1 Method of Application

The chlorine solution may be applied with suitable brushes or spray equipment. The solution shall thoroughly coat all surfaces to be treated, including the inlet and outlet piping, internal mixing system and other appurtenances in contact with potable water and shall be applied to any separate drain piping such that it will have available chlorine of not less than 10 mg/l when filled with water. Overflow piping need not be disinfected.

Sec. 4.3.2.2 Retention

The surfaces disinfected shall remain in contact with the strong chlorine solution for at least 30 min., after which potable water shall be admitted, the drain piping purged of the 10 mg/L chlorinated water and the storage facility then filled to its overflow level. Following this procedure and subject to satisfactory bacteriological testing and acceptable aesthetic quality, the water may be delivered to the distribution system.

- D. Personnel working inside the tank during the disinfection process shall be equipped with suitable air masks and safety lines leading through a man way to personnel outside the tank. All safety precautions shall be observed.
- E. Method and sequence of disinfection of tank piping and appurtenances shall be submitted to the Owner prior to testing and disinfection operations.

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3.13 HYPOCHLORITES AND LIQUID CHLORINE

- A. Chemicals used for disinfection shall be in accordance with AWWA B300 - Standard for Hypochlorites, and B301 - Standard for Liquid Chlorine. Chlorine used for disinfection shall be NSF 60 certified.

3.14 BACTERIOLOGICAL SAMPLING AND TESTING

- A. After the chlorination procedure is completed and before the storage facility is placed in service, water from the full facility shall be sampled and tested on two (2) separate occasions for coliform organisms in accordance with the latest edition of "Standard Methods for the Examination of Water and Wastewater". The testing shall be by either the multiple tube fermentation technique or the membrane filter technique. Heterotrophic Plate Count (HPC) analysis shall be performed with coliform sampling.

A total of two (2) sets of sampling for coliform and HPC taken at minimum 24 hours apart shall be obtained with satisfactory results prior to consideration for returning the tank to service.

- B. Test for Odor: Such water also should be tested to assure that no offensive odor exists due to chlorine reactions or excess chlorine residual. Contractor shall test chlorine residual to ensure that chlorine level is acceptable to Owner prior to placing tank in service.
- C. Test for volatile organic compounds (VOC's). Such water shall be tested for the presence of VOC's, EPA Method 524.2. One (1) set of VOC analysis collected with the initial coliform sample is required with satisfactory results prior to consideration for placement of the tank facility back into service.
- D. Results of Testing: If the bacteriological samples are negative, then the storage facility may be placed in service subject to provisions of Item F and G of this section. If the above samples show the presence of coliform bacteria, then repeat samples shall be taken until two (2) consecutive samples are negative or the storage facility shall be subjected to repeat disinfection. There shall be no detectable regulated VOC's detected in the sample (above normal background levels in the distribution system) to receive Rhode Island Department of Health's approval.
- E. Care of Sampling: The samples shall be taken from a sample tap on the outlet piping from the storage facility or from a sample tap connected directly to the storage facility. In either case the operation shall be such as to assure that the sample collected is actually from water that has been in the storage facility.
 - 1. Recommended Additional Samples: During the disinfection operation and the required sampling of water from the storage facility, it is recommended that samples be taken from water inflowing to the storage facility to determine if coliforms are present in the typical potable water.
 - 2. All testing shall be performed by a laboratory certified by the Rhode Island Department of Health. The results of the testing shall be submitted to the Rhode Island Department of Health, for approval, prior to placing the storage facility in service. The results must be submitted on official forms – reference Appendix A.
- F. Subject to satisfactory bacteriological and VOC testing and acceptable aesthetic quality, as approved by the Rhode Island Department of Health, and accepted by the Owner, such water may be served to the distribution system.
- G. Repetition of Procedure: If the original disinfection fails to produce satisfactory bacteriological and VOC samples, repeat the disinfection procedure until satisfactory results are obtained at no

additional expense to the Owner. **Owner will provide potable water for flushing and disinfection of storage tanks and appurtenances for original disinfection procedure time only. Contractor shall be responsible for all costs to drain the tank, dispose of unsuitable water and cost of all water used in subsequent flushing, cleaning, disinfection, and testing activities as needed to obtain satisfactory analytical results to allow the tank to be returned to service.**

3.15 FIRST ANNIVERSARY INSPECTION

- A. Prior to the expiration date of the one-year warranty period and when required by the Owner, the Contractor and representatives of the Owner shall perform an external and internal inspection of the water storage facilities.
- B. The Owner shall establish the date for inspection and shall notify the Contractor at least 30 days in advance. **The Owner may at their option drain the tanks.** The Contractor shall provide suitable interior lighting, staging and ladders, if required by the Owner, and ventilation for the tank inspections.
- C. Any location where coats of paint are peeled off, bubbled or cracked, or any location where rusting is evident, shall be considered to be a failure of the paint system. The Contractor shall make repairs at all points where failures are observed by removing the deteriorated coating, cleaning the surface, and recoating with the same paint system. If the areas of failure exceed 15 percent of the area of a portion of the tank surface, then the entire paint system shall be removed and repainted. For purposes of determining the need for complete repainting the inside roof, shell and floor, and the outside roof, shell and floor shall each be considered separately.
- D. The Contractor shall prepare and deliver to the Owner an inspection report covering the first anniversary inspection, setting forth the number and type of failures observed, the percentage of the surface area where failure has occurred, and the names of the persons making the inspection. Color photographs illustrating each type of failure shall be included in the reports.
- E. After the first anniversary inspection and after any required repairs, and prior to placing the storage facilities back on line, the Contractor shall disinfect the tanks in accordance with specification paragraphs 3.12, 3.13 and 3.14 of this section. Water required for disinfection will be provided by the Owner as indicated therein.

END OF SECTION

SECTION 13850

CELLULAR ANTENNA EQUIPMENT WORK AND COORDINATION

PART 1.00 GENERAL

1.01 SCOPE OF WORK

- A. The intent of this work is to standardize the method of attachment and minimize the visual impact of the cellular equipment on these tanks and to coordinate the efforts of the tank painting contractor and telecommunication equipment companies. Following is a breakdown of the minimum scope of work and duties to be performed by the tank painting contractor, the cellular equipment installer and coordination between the two parties. See Appendix E for telecommunications company lease agreement and tenant information.
- B. All costs for coordination and associated work effort with telecommunication equipment companies and equipment shall be included in the Mobilization & Demobilization pay item as described in the Bid Form and Section 01150 – Measurement and Payment.
- C. It is the intent of these specifications to return all antennas, cables and cable trays back to their original positions except as modified to allow for maintenance access behind the equipment. New equipment (i.e. cable trays, antennas, cables, etc.) and materials are to be supplied and installed by the telecommunication equipment companies. Contractor is responsible for temporary relocation of existing and welding of steel plate supports for installation of equipment by cellular equipment companies.
- D. Related Work Described Elsewhere

09000	Steel Water Tank and Miscellaneous Pipe Coatings
10930	Personnel and Environmental Protection
13410	Water Storage Tank Renovation
- E. General Scope of Work By Painting Contractor
 - 1. The tank painting contractor is to construct and maintain a rigid containment system as outlined in Section 13410 in these specifications. The Contractor shall be fully responsible for the design and support system associated with the containment system. Full decking and associated handrails are required at each work level and stairs and handrails are required as per OSHA regulations.
 - 2. Engineered drawings of the scaffold and containment complying with OSHA regulations and stamped by a Registered Professional Structural Engineer licensed in the State of Rhode Island are required.
 - 3. The scaffold design shall be such that no excessive loads or forces are applied to the tank, which could cause damage during various weather conditions that could be experienced while the

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scaffold/containment system is in place. The Contractor shall spread the load of the roof containment system over a large area to eliminate any steel deflection greater than 1-inch. The scaffolding/containment design is to include the weight of containment materials and decking as well as all cell coax cables and antennae.

4. The scaffold design is to be such that movement is minimized to the limits required by the cellular and communications equipment Owner currently on the tank. The paint contractor and/or scaffold construction company is responsible for obtaining the minimum movement calculations from the communications companies.
5. It is expected that the containment framework will need to be constructed up to two weeks in advance of actual start of cleaning and painting operations and remain in place for up to two weeks after cleaning and painting work is completed to allow for removal and relocation of the cellular equipment.
6. The paint contractor, cellular equipment installer and scaffold company are to work in unison to coordinate efforts with respect to the timing of moving the cell equipment at each level of equipment. Hold points are to be established during construction of the scaffolding to allow for relocation of the cellular equipment. Hold points of two days minimum duration is required to move the various equipment during both the initial temporary relocation of equipment onto the scaffolding and then the subsequent re-attachment of the equipment onto the tank.
7. The scaffold is to be positioned so that it does not interfere with the ground level equipment cabinets or the antennae and equipment on the tank. It is expected that the scaffold will be placed no closer than 30"± from the tank to allow it to pass the antennae. The ground level cabinets and equipment is to be protected at all times however it is not to be enclosed within the containment. Additional scaffolding and decking is to be placed around and above the cellular equipment and cabinets as necessary to protect them from damage during the specified work.
8. Furnish all labor, materials, equipment and incidentals required to remove the existing cell equipment mounting bands and any and all miscellaneous studs and/or mounting brackets remaining on the tank after the cell installer removes the existing equipment.
9. Furnish and install angle and antenna support assemblies around the entire circumference of the tank and at the same elevations as where the original mounting bands were removed. In addition the paint contractor is to install cable tray support brackets as detailed on drawings. The final design and placement of the brackets shall be at the direction of the cellular equipment company.
10. The paint contractor is to clean and paint all new mounting equipment in accordance with Section 09000 of these specifications.

11. Upon completion of all cleaning and painting work outlined in these specifications the cellular equipment is to be reinstalled by the cellular installer.
12. The tank painting contractor is responsible for any touchup work required as a result of damage incurred during installation of the cellular equipment and/or dismantling of the scaffolding system.

F. Work Required by the Cellular Installer:

1. Generally this work is to include removal of existing cellular equipment from the tank and temporary relocation of all equipment to the containment framework specified to be constructed by others as part of the tank maintenance project. Upon completion of the tank painting project all equipment is to be re-installed by the cellular installer onto new mounting brackets installed by the tank painting contractor.
2. The cellular installer shall furnish all labor, materials, equipment and incidentals, except for the scaffolding, required to remove all existing antennas, coax cables and cable trays from the exterior of the tank and temporarily mount the antennas and coax cables to the rigid staging to be constructed by others around the exterior of this tank to facilitate exterior painting maintenance. Ensure proper orientation of relocated antennas as per individual carrier requirements.
3. The cellular installer is to provide all equipment necessary to return the cellular network to operational condition.
4. The cellular installer is to clean and paint the cable tray covers as specified for the remainder of the tank as outlined below.
5. The As Built drawing attached to these specifications is for the Contractors use to establish locations of various equipment attached to this tank however the information contained in the drawing may not be accurate to the existing design. It is the Contractors responsibility to verify all information detailed in the As Built drawing and to return the Cellular equipment to its original location as existing prior to the start of work.
6. The cellular installer shall submit updated construction As Built drawings to the Owner upon completion of the cellular equipment installation.
7. Upon completion of the project the cellular installer is to submit a detailed list of equipment being replaced for each cell carrier on these tanks. Separate equipment list will be required for each cell carrier. The list shall be inclusive of an explanation of why any particular piece of equipment, cable and/or miscellaneous item is being replaced rather than being reinstalled on the tank.

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PART 2.00 PRODUCTS

2.01 SUPPORT BRACKETS

- A. All antenna and coax cable and cable tray brackets are to conform to the design requirements of cellular carrier. At a minimum the new circumferential angles are to be constructed of A36 mild steel with a minimum size of 3" x 3" x 3/8" L-angle supported every eight to ten feet by 3/8" gusset plates.
- B. All brackets and angles are to be designed to allow for a minimum of 8" clearance between the tank wall and the cellular equipment components. Uni-strut attachments directly to the tank are not allowed.
- C. All brackets are to be constructed of unpainted mild steel. Galvanized steel brackets are not required.

2.02 COATINGS

- A. All antenna supports, cable tray brackets, and appurtenances shall be abrasive blast cleaned and coated by the tank painting contractor according to the exterior tank paint specification as specified in Section 09000.
- B. All outward facing visible surfaces of the front cable tray covers are to be brush off blast cleaned to an SSPC SP7 blast grade to provide for a uniform minimum blast profile of 1.0 mils followed by the application of one full prime coat of Tnemec Series 27- 32GR F.C. Typoxy applied to a dry film thickness of 3.0 - 5.0 mils and one full finish coat of Tnemec Series 750UVX Polyurethane applied to a dry film thickness of 2.5 – 3.5 mils. Finish coat color to match the tank. No coating application is required on the inboard or hidden surfaces under the cable trays or covers.
- C. No coatings are required on any coax cable or antenna equipment.

PART 3.00 EXECUTION

3.01 INSTALLATION

- A. The tank painting contractor is to weld all mounting brackets to the tank with a 1/4" full fillet weld around the entire perimeter of the brackets.
- B. The cellular equipment company or their subcontractor is to install all cable trays, coax cables and cable tray covers in accordance with the cellular communications company requirements. The cost of the installation is to include all scheduling, equipment, engineering, drawings and any miscellaneous items necessary to return the network to proper operating condition in the least amount of time possible.

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- C. The cost for any additional new, upgraded or miscellaneous equipment installed at the request of the cellular communications company will be the complete responsibility of the company making that request.
- D. Upon completion of the project the cellular installer is required to submit an itemized list of all communications equipment reinstalled on the tanks for the Owner.

END OF SECTION

Appendix A

RI Department of Health – Office of Drinking Water Quality Official Reporting Forms

RHODE ISLAND DEPARTMENT OF HEALTH - Office Of Drinking Water Quality

Official Heterotrophic Plate Count (HPC) Result Reporting Form

PWS ID: **RI** _____ System Name: _____
 Reporting Period: _____
 Facility Code: _____ Facility Name: _____
 Laboratory Name: _____ RI Lab Cert. #: _____

No.	Lab Sample No.	Date	Time	By	Sample Point Description	Analysis Date	CFU/ mL

I hereby declare that all results reported on this form were determined by a laboratory certified by the State of Rhode Island for each parameter and method of analysis listed. I have also carefully reviewed this report and I verify that the laboratory met all the quality control and quality assurance requirements for the reported results or has provided reasons and/or justification acceptable to me if it did not.

Authorized Signature: _____ Title: _____ Date: _____

RHODE ISLAND DEPARTMENT OF HEALTH - Office Of Drinking Water Quality

Official Microbiological Result Reporting Form

PWS ID: **RI** _____

System Name: _____

Reporting Period: _____

Facility Code: **DS001** _____Facility Name: **Distribution** _____

Laboratory Name: _____

RI Lab Cert. #: _____

Routine Samples					Repeat	Sample Point Description	Analysis Date	Total Coliform		Fecal Coliform		Chlorine Residual (ppm)
No.	Lab Sample No.	Date	Time	By	(Routine Date & No.)			/100ML		/100ml		
								MF	PA	EC Media	Other	
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												

MONTHLY TOTAL

Total # Samples Examined	# Samples Coliform Positive	% Samples Coliform Positive	# Samples Fecal Positive

I hereby declare that all results reported on this form were determined by a laboratory certified by the State of Rhode Island for each parameter and method of analysis listed. I have also carefully reviewed this report and I verify that the laboratory met all the quality control and quality assurance requirements for the reported results or has provided reasons and/or justification acceptable to me if it did not.

Authorized Signature: _____

Title: _____

Date: _____

Rhode Island Department of Health - Office of Drinking Water Quality
Official Reporting Form for Volatile Organic Contaminants

(For DOH use only)

PWS Information:PWSID Number: **RI**

Water System Name: _____

Facility Code: _____ Sampling Point Code: _____

Sampling Point Description: _____

Collection Date: _____ Time: _____ By: _____

Is the source treated? Y / N Was the sample collected after treatment? Y / N**Laboratory Analytical Information:**

Laboratory Name: _____ RI Lab Cert. #: _____

Date Sample received: _____ Lab Sample ID #: _____

Notes: _____

Analyte Name		Analyte Result (ug/l)	Laboratory MDL (ug/l)	RI Required MDL (ug/l)	MCL (ug/L)	Analytical Method	Date Extracted	Date Analyzed
Bromodichloromethane	1			0.5	-			
Bromoform	2			0.5	-			
Dibromochloromethane	3			0.5	-			
Chloroform	4			0.5	-			
1,2 Dibromoethane	5			0.5	-			
Benzene	6			0.5	5			
Carbon Tetrachloride	7			0.5	5			
1,2 Dichloroethane	8			0.5	5			
Trichloroethene	9			0.5	5			
1,4 Dichlorobenzene	10			0.5	75			
1,1 Dichloroethene	11			0.5	7			
1,1,1 Trichloroethane	12			0.5	200			
Vinyl Chloride	13			0.5	2			
Bromobenzene	14			0.5	-			
Bromomethane	15			0.5	-			
Chlorobenzene	16			0.5	100			
Chloroethane	17			0.5	-			
Chloromethane	18			0.5	-			
2-Chlorotoluene	19			0.5	-			
4-Chlorotoluene	20			0.5	-			
Dibromomethane	21			0.5	-			
1,3 Dichlorobenzene	22			0.5	-			
1,2 Dichlorobenzene	23			0.5	600			
trans 1,2 Dichloroethene	24			0.5	100			
cis 1,2 Dichloroethene	25			0.5	70			
Methylene Chloride	26			0.5	5			
1,1 Dichloroethane	27			0.5	-			
1,1 Dichloropropene	28			0.5	-			
1,2 Dichloropropane	29			0.5	5			
1,3 Dichloropropane	30			0.5	-			
1,3 Dichloropropene	31			0.5	-			
2,2 Dichloropropane	32			0.5	-			

Rehabilitation of Kinney Avenue and North End Water Storage Tanks

Analyte Name		Analyte Result (ug/l)	Laboratory MDL (ug/l)	RI Required MDL (ug/l)	MCL (ug/L)	Analytical Method	Date Extracted	Date Analyzed
Ethylbenzene	33			0.5	700			
Styrene	34			0.5	100			
1,1,2 Trichloroethane	35			0.5	5			
1,1,1,2 Tetrachloroethane	36			0.5	-			
1,1,2,2 Tetrachloroethane	37			0.5	-			
Tetrachloroethene	38			0.5	5			
1,2,3 Trichloropropane	39			0.5	-			
Toluene	40			0.5	1000			
Xylene	41			0.5	10000			
1,2 Dibromo 3 Chloropropane	42			0.5	-			
Bromochloromethane	43			0.5	-			
n-Butylbenzene	44			0.5	-			
Dichlorodifluoromethane	45			0.5	-			
Trichlorofluoromethane	46			0.5	-			
Hexachlorobutadiene	47			0.5	-			
Isopropylbenzene	48			0.5	-			
p-Isopropyltoluene	49			0.5	-			
Naphthalene	50			0.5	-			
n-Propylbenzene	51			0.5	-			
sec-Butylbenzene	52			0.5	-			
tert-Butylbenzene	53			0.5	-			
1,2,3 Trichlorobenzene	54			0.5	-			
1,2,4 Trichlorobenzene	55			0.5	70			
1,2,4 Trimethylbenzene	56			0.5	-			
1,3,5 Trimethylbenzene	57			0.5	-			
Methyl Tertiary Butyl Ether	58			0.5	-			
Hexane	59			0.5	-			

Please note that in situations where results for a contaminant are obtained from more than one method, the highest positive result must be reported.

I hereby declare that all results reported on this form were determined by a laboratory certified by the State of Rhode Island for each parameter and method of analysis listed. Additionally, I have carefully reviewed this report and I verify that the laboratory met all the quality control and quality assurance requirements for the reported results or has provided reasons and/or justification acceptable to me if it did not.

Authorized Signature: _____

Date: _____

Appendix B

Kinney Avenue Tank Inspection Report



***INSPECTION AND CLEANING OF THE KINNEY AVENUE
750,000-GALLON WATER STORAGE TANK***

***TOWN OF NARRAGANSETT WATER DIVISION
NARRAGANSETT, RHODE ISLAND***

DECEMBER 18, 2014





***INSPECTION AND CLEANING OF THE KINNEY AVENUE
750,000-GALLON HYDROSPHERE WATER STORAGE TANK***

***TOWN OF NARRAGANSETT WATER DIVISION
NARRAGANSETT, RHODE ISLAND***

DECEMBER 18, 2014

SCOPE:

On December 18, 2014, Underwater Solutions Inc. inspected the Kinney Avenue 750,000-gallon Hydrosphere water storage tank to provide information regarding the overall condition and integrity of this structure and removed the sediment accumulation found on the floor.

EXTERIOR INSPECTION:

The entire exterior of this water storage tank was inspected to include pedestal, walls and coating, foundation, manways, ladders, overflow, roof, vent and hatch.

Pedestal

The welded steel pedestal was found remaining sound and free of obvious fatigue (pitting) of the steel at this time.

The protective coating applied to these welded steel surfaces has poor adhesion value and has nearly expired and is peeling. This condition has resulted in exposure of the underlying steel throughout approximately 10% of these surfaces and throughout all elevations of the pedestal. No obvious fatigue (pitting) of the steel was evident within these areas showing steel exposure, rather mild to moderate corrosion exists at this time.

***INSPECTION AND CLEANING OF THE KINNEY AVENUE
750,000-GALLON HYDROSPHERE WATER STORAGE TANK
TOWN OF NARRAGANSETT WATER DIVISION
NARRAGANSETT, RHODE ISLAND
DECEMBER 18, 2014
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Walls and Coating (Tank Bowl Base and Side Walls)

The exterior welded steel wall surfaces and bowl base were inspected from ground level and found appearing sound and free of obvious fatigue (pitting) of the steel at this time.

The protective coating applied to the base of the bowl, and exterior side walls is also nearing expiration as the secondary coating is peeling. This condition has resulted in exposure of the underlying primary coating throughout approximately 50% of these surfaces, while several isolated 2" to 3" diameter areas of steel exposure were observed throughout the bowl base due to complete failure of the coating system. No obvious fatigue (pitting) of the steel was evident within these isolated areas of steel exposure, rather mild surface corrosion exists at this time.

The interior surfaces of the welded steel riser column and roof dome access tube were found appearing sound and free of obvious fatigue (pitting) of the steel, while secondary coating adhesion loss has resulted in exposure of the primary coating throughout approximately 50% of the riser column and access tube surfaces.

The lowest 15' of the riser column is encased within an aluminum sheathing, preventing a visual inspection of these surfaces.

Each of the ten, anti-sway rods that extend from the pedestal wall to the riser column remain properly installed and free of obvious steel fatigue at this time. The protective coating applied to each steel anti-sway rod appeared to have good adhesion value, while chalking of the coating exists throughout the length of each anti-sway rod at this time.

An accumulation of mildew exists on throughout all elevations of the pedestal, bowl base and tank walls, reducing the overall aesthetics of this potable water storage tank.

Foundation

The 13" wide by 5" tall concrete foundation, located at the base of the pedestal was found appearing sound and free of obvious fatigue of the concrete at the time this inspection was completed.

Manways

Two manways were inspected from the exterior of the tank.

***INSPECTION AND CLEANING OF THE KINNEY AVENUE
750,000-GALLON HYDROSPHERE WATER STORAGE TANK
TOWN OF NARRAGANSETT WATER DIVISION
NARRAGANSETT, RHODE ISLAND
DECEMBER 18, 2014
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One 24" inside diameter manway was inspected penetrating the base of the bowl and located approximately 50" in from the center riser column.

The protective coating applied to these steel surfaces has poor adhesion value and is peeling, resulting in exposure of the underlying steel throughout 5% of this manway. No obvious fatigue (pitting) of the steel was evident within these areas showing steel exposure, rather mild surface corrosion exists at this time.

A second 18" by 12" inside diameter manway was inspected penetrating the center riser column and located approximately 30" above the concrete floor of the pedestal.

The protective coating applied to these steel surfaces remains having mostly good adhesion value, yet coating loss has caused steel exposure throughout the circumference of the manway where this manway penetrates the riser column. Steel exposure and corrosion exist throughout the hardware that secures this manway in place. No obvious fatigue (pitting) of the steel was evident within the areas showing steel exposure, rather mild surface corrosion exists at this time.

Each of these manways remain securely bolted in place and without leakage at this time.

Ladders

Three welded steel ladders provide safe access to the roof dome of this potable water storage tank.

The first ladder begins approximately 20" above the concrete floor of the pedestal, extending up to a platform and is secured to the pedestal wall with three sets of welded standoffs.

The second ladder extends from a platform up to a walkway that leads to the roof access tube and is secured to the pedestal wall with four sets of welded standoffs. A fall prevention device is installed throughout the length of this ladder, providing safe access.

The third and final ladder extends from a walkway up through the roof access tube to the roof and is secured to the access tube with nine sets of welded standoffs. A fall prevention device is installed throughout the length.

The protective coating applied to each steel ladder remains having mostly good adhesion value, yet mild coating fatigue has caused primary coating and steel exposure on the rungs due to the ladders use and has caused thinning of the coating system on each rung.

***INSPECTION AND CLEANING OF THE KINNEY AVENUE
750,000-GALLON HYDROSPHERE WATER STORAGE TANK
TOWN OF NARRAGANSETT WATER DIVISION
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DECEMBER 18, 2014
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Overflow

A 12" inside diameter overflow pipe penetrates the riser, located approximately 8' below the junction of where the roof and walls meet, extends down and is supported to the riser with two sets of welded standoffs and to the pedestal wall with one bolted "U" bracket.

Approximately 16" above the pedestal base, this overflow pipe turns 90° and penetrates the pedestal to the exterior of this structure where it extends away from the pedestal 13" and terminates 16" above the ground.

This overflow pipe was free of obvious obstructions and has a screen installed at its end, preventing access to the interior of the pipe/tank.

The protective coating applied to this welded steel overflow pipe has good adhesion value at this time.

Roof

The welded steel roof dome appears sound and free of obvious fatigue (pitting) of the steel at this time.

The protective coating applied to these welded steel surfaces is nearing expiration and is peeling resulting in exposure of the underlying steel throughout approximately 10% of the dome at this time. No obvious fatigue (pitting) of the steel was evident within these areas showing steel exposure rather mild surface corrosion exists at this time.

Each of the twenty-six, 2" diameter rigging hole penetrations within the roof dome are secured with caps preventing access to the interior of the tank.

Vent

The vent is located throughout the circumference of the access tube having a 50" outside diameter and standing 12" tall.

A 64" outside diameter cap and perimeter screening remain securely installed around this vent preventing access to the interior of the tank.

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Hatch

One 30" inside diameter hatch provides access to the interior through the roof.

This hatch remains in good working condition and was found properly secured with a lock preventing unwanted access.

INTERIOR INSPECTION:

The entire interior of this water storage tank (and components) was inspected to include sediment accumulations, floor, manway, piping, walls and coating, riser, cathodic protection system, overhead, overflow and aesthetic water quality.

Sediment Accumulations

A uniform layer of accumulated precipitate was found on all floor surfaces averaging 1/2" in depth.

Upon completing this inspection, all floor surfaces were vacuumed.

Floor

After removing the accumulated precipitate, these welded steel floor surfaces were inspected and appeared sound and free of obvious fatigue (pitting) of the steel.

The protective coating applied to these steel floor surfaces appears to have good adhesion value, while moderate staining exists throughout the floor due to the accumulation of precipitate.

Manway

One 24" inside diameter manway penetrates the floor of the tank 50" in from the riser column and is securely installed and free of obvious leakage.

The protective coating applied to the steel surfaces of the manway lid and trunk has good adhesion value at this time.

Piping

Two pipes were inspected within this potable water storage tank.

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The first pipe inspected is flush within the center of the floor having a 44" inside diameter and was free of obvious obstructions and without flow at the time of this inspection.

A 32" tall safety rail is installed around the perimeter of this penetration.

The second pipe inspected is a 12" inside diameter pipe that extends up 28" through the 44" inside diameter flush penetration within the floor having a 24" long rubber check valve installed at its end. The rubber check valve installed at the end of this pipe is properly installed, free of obvious obstructions and without flow at the time of this inspection.

Walls and Coating

The interior welded steel walls were inspected beginning at the floor and by spiraling the circumference of the tank up to the water surface.

These steel wall panels, to include the welds between panels, were found appearing sound and free of obvious fatigue (pitting) of the steel at this time.

The protective coating applied to these welded steel surfaces remains having good adhesion value, while mild surface corrosion and corrosion staining were observed throughout the circumference of the top row of wall panels, at the junction of where the roof and walls meet. No obvious steel exposure was evident within these areas showing mild surface corrosion and corrosion staining at this time.

Moderate staining exists on all wall surfaces, beginning approximately 48" below overflow level and extending down to the floor.

Riser (Access Tube)

The 50" outside diameter riser (access tube) was found appearing sound and free of obvious fatigue (pitting) of the steel at this time.

The protective coating applied to these welded steel surfaces remains having good adhesion value. Similar staining as was found throughout the interior wall surfaces also exists throughout this center access tube.

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Cathodic Protection System

A cathodic protection system exists within this tank, consisting of cables that enter the tank through the 44" inside diameter flush penetration within the floor and extend to a concentric ring connection pattern suspended approximately 20' above the floor and anchored to the wall in nine locations.

This entire system appeared intact and without obvious failures, yet was not tested at the time of this inspection.

Overhead

The entire overhead of this water storage tank was inspected from the water surface.

These steel overhead panels and angle iron overhead supports were found appearing sound and free of obvious fatigue or failures at this time.

The protective coating applied to these surfaces remains having good adhesion value, yet mild rust staining was observed throughout approximately 5% of the panel junction edges. No obvious steel exposure was evident at the time this inspection was completed.

Overflow

The overflow consists of a 16" by 8" cutout within the riser column, located approximately 8' below the overhead.

This overflow was free of obvious obstructions at the time this inspection was completed.

Aesthetic Water Quality

The aesthetic water quality was good throughout this entire tank, allowing unlimited visibility for this inspection.

CONCLUSION:

It is the opinion of Underwater Solutions Inc. that this welded steel potable water storage tank remains sound and without leakage, yet requires rehabilitation within the near future as the exterior coating system is nearing expiration.

***INSPECTION AND CLEANING OF THE KINNEY AVENUE
750,000-GALLON HYDROSPHERE WATER STORAGE TANK
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The exterior welded steel surfaces of the pedestal, bowl base, tank walls and roof dome appeared sound and free of obvious fatigue (pitting) of the steel at the time this inspection was completed.

The coating system applied to all exterior welded steel pedestal, bowl base, tank walls and roof dome, to include the inner surfaces of the riser column and roof dome access tube and is nearing expiration. This condition has resulted in varying degrees of coating fatigue and coating failure, to include exposure of the primary coating and exposure of the underlying steel. Although surface corrosion was observed in all areas showing steel exposure, no obvious fatigue or deterioration of the exposed steel was evident at the time this inspection was completed.

Our recommendation is that the entire exterior of this structure be abrasive blasted to white or near white metal and then recoated to prevent steel fatigue and to protect the steel, while improving the overall aesthetics.

It is also our recommendation that all components located within the interior of the pedestal be spot grinded and recoated to prevent exposure of the underlying steel and to preserve the integrity of this structure.

All components affixed to this structure are properly installed at this time. The screens installed around the circumference of the vent and at the end of the overflow pipe remain secure, preventing access to the interior of the tank.

The interior welded steel floor, walls, access tube and overhead surfaces, to include all associated components were found appearing sound and free of obvious fatigue or failures at the time this inspection was completed.

The protective coating applied to all interior welded steel surfaces and associated components remains having good adhesion value, and although mild corrosion and corrosion staining were observed throughout the top of the top row of interior wall panels at the junction of where the roof and walls meet and throughout the length of the overhead panel junction edges, no obvious exposure of the underlying steel was evident at this time.

It is our recommendation that a budget be prepared to re-coat all interior surfaces of this water storage tank using an A.N.S.I./N.S.F.61 approved coating for use in structures containing potable water during the same timeframe as the rehabilitation of the exterior as a cost saving method and to remain consistent with the rotation of future maintenance.

***INSPECTION AND CLEANING OF THE KINNEY AVENUE
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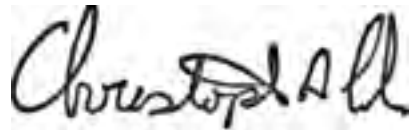
We make this recommendation as indications that the interior coating system is beginning to expire as corrosion and corrosion staining were observed throughout the top of the top row of wall panels, at the junction of where the roof and walls meet. Corrosion and corrosion staining were also observed throughout the length of the overhead panel junction edges.

The cathodic protection system installed within this tank appeared to be intact, properly installed and without obvious failures, yet was not tested at the time of this inspection.

All piping within this water storage tank appeared to be properly installed and was free of obvious obstructions at the time this inspection was completed.

After completing this inspection, all accumulated precipitate was vacuumed from the floor.

As always, we recommend re-inspection and cleaning of all water storage facilities in accordance with state and federal mandates, A.W.W.A. standards, and be completed by an experienced and authorized inspection corporation.



UNDERWATER SOLUTIONS INC.
Christopher A. Cole, Project Manager

This report, the conclusions, recommendations and comments prepared by Underwater Solutions Inc. are based upon spot examination from readily accessible parts of the tank. Should latent defects or conditions which vary significantly from those described in the report be discovered at a later date, these should be brought to the attention of a qualified individual at that time. These comments and recommendations should be viewed as information to be used by the Owner in determining the proper course of action and not to replace a complete set of specifications. All repairs should be done in accordance with A.W.W.A. and/or other applicable standards.



1 *Exterior Walls With Poor Adhesion, Peeling, Mild To Moderate Corrosion And Mildew*



2 *Exterior Walls With Poor Adhesion, Peeling, Mild To Moderate Corrosion And Mildew*



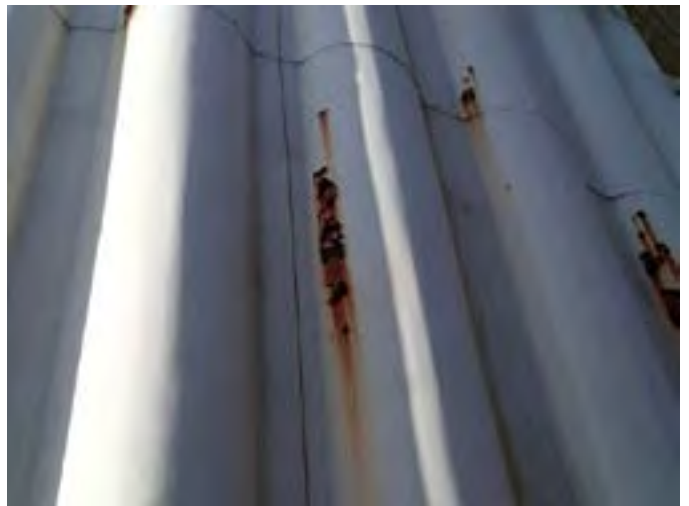
3 *Exterior Walls With Poor Adhesion, Peeling, Mild To Moderate Corrosion And Mildew*



4 *Exterior Walls With Poor Adhesion, Peeling, Mild To Moderate Corrosion And Mildew*



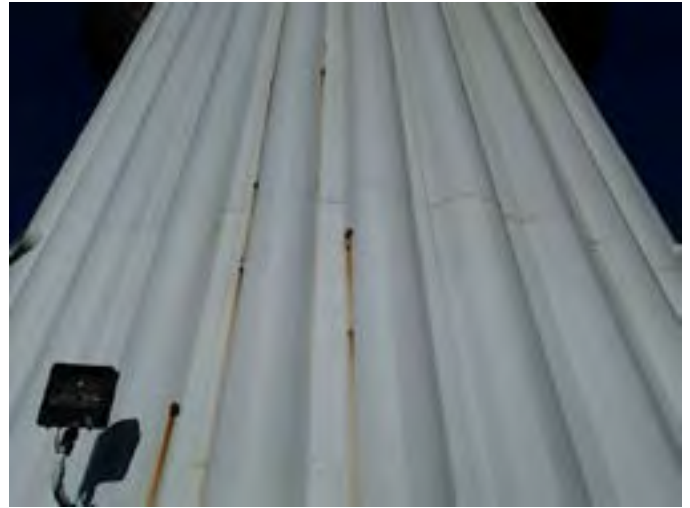
5 *Exterior Walls With Poor Adhesion, Peeling, Mild To Moderate Corrosion And Mildew*



6 *Exterior Walls With Poor Adhesion, Peeling, Mild To Moderate Corrosion And Mildew*



7 *Exterior Walls With Poor Adhesion, Peeling, Mild To Moderate Corrosion And Mildew*



8 *Exterior Walls With Poor Adhesion, Peeling, Mild To Moderate Corrosion And Mildew*



9 *Exterior Walls With Poor Adhesion, Peeling, Mild To Moderate Corrosion And Mildew*



10 *Exterior Walls With Poor Adhesion, Peeling, Mild To Moderate Corrosion And Mildew*



11 *Exterior Walls With Poor Adhesion, Peeling, Mild To Moderate Corrosion And Mildew*



12 *Exterior Walls With Poor Adhesion, Peeling, Mild To Moderate Corrosion And Mildew*



13 *Exterior Walls (Bowl Base And Side Walls) With Nearly Expired Protective Coating, Exposed Primary Coating, Isolated Areas Of Steel Exposure And Mildew*



14 *Exterior Walls (Bowl Base And Side Walls) With Nearly Expired Protective Coating, Exposed Primary Coating, Isolated Areas Of Steel Exposure And Mildew*



15 *Exterior Walls (Bowl Base And Side Walls) With Nearly Expired Protective Coating, Exposed Primary Coating, Isolated Areas Of Steel Exposure And Mildew*



16 *Exterior Walls (Bowl Base And Side Walls) With Nearly Expired Protective Coating, Exposed Primary Coating, Isolated Areas Of Steel Exposure And Mildew*



17 *Exterior Walls (Bowl Base And Side Walls) With Nearly Expired Protective Coating, Exposed Primary Coating, Isolated Areas Of Steel Exposure And Mildew*



18 *Exterior Walls (Bowl Base And Side Walls) With Nearly Expired Protective Coating, Exposed Primary Coating, Isolated Areas Of Steel Exposure And Mildew*



19 *Exterior Walls (Bowl Base And Side Walls) With Nearly Expired Protective Coating, Exposed Primary Coating, Isolated Areas Of Steel Exposure And Mildew*



20 *Exterior Walls (Bowl Base And Side Walls) With Nearly Expired Protective Coating, Exposed Primary Coating, Isolated Areas Of Steel Exposure And Mildew*



21 *Steel Riser Column With Secondary Coating Loss And Exposed Primary Coating*



22 *Steel Riser Column With Secondary Coating Loss And Exposed Primary Coating*



23 *Steel Riser Column*



24 *Steel Riser Column*



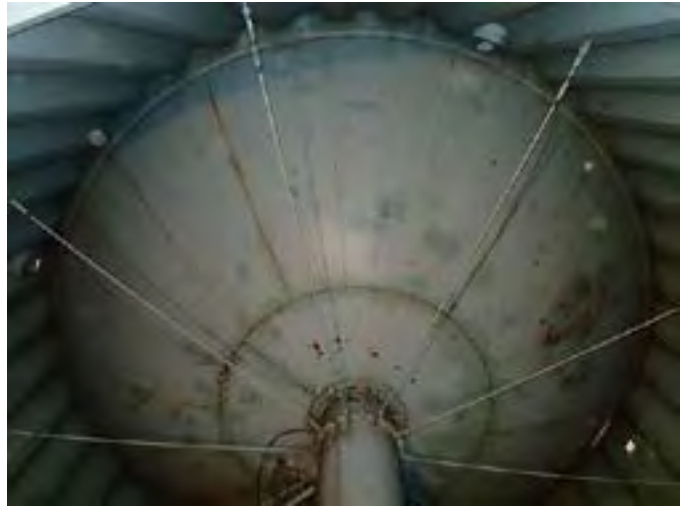
25 *Interior Of The Steel Riser Column With Secondary Coating Loss And Exposed Primary Coating*



26 *Interior Of The Steel Riser Column With Secondary Coating Loss And Exposed Primary Coating*



27 *Interior Of The Steel Riser Column With Secondary Coating Loss And Exposed Primary Coating*



28 *Anti-Sway Rods With Chalking Of The Coating*



29 *Anti-Sway Rods With Chalking Of The Coating*



30 *Anti-Sway Rods With Chalking Of The Coating*



31 *Concrete Foundation*



32 *Concrete Foundation*



33 *Manway With Poor Adhesion Value, Peeling And Mild Surface Corrosion*



34 *Manway With Coating Loss, Steel Exposure And Mild Surface Corrosion*



35 *Ladder*



36 *Ladder And Fall Prevention Device With Mild Coating Fatigue And Steel Exposure*



37 *Ladder And Fall Prevention Device With Mild Coating Fatigue And Steel Exposure*



38 *Ladder And Fall Prevention Device With Mild Coating Fatigue And Steel Exposure*



39 *Overflow*



40 *Overflow*



41 *Screened Overflow*



42 *Roof Dome With Nearly Expired Coating, Exposure Of The Underlying Steel And Mild Surface Corrosion*



43 *Roof Dome With Nearly Expired Coating, Exposure Of The Underlying Steel And Mild Surface Corrosion*



44 *Roof Dome With Nearly Expired Coating, Exposure Of The Underlying Steel And Mild Surface Corrosion*



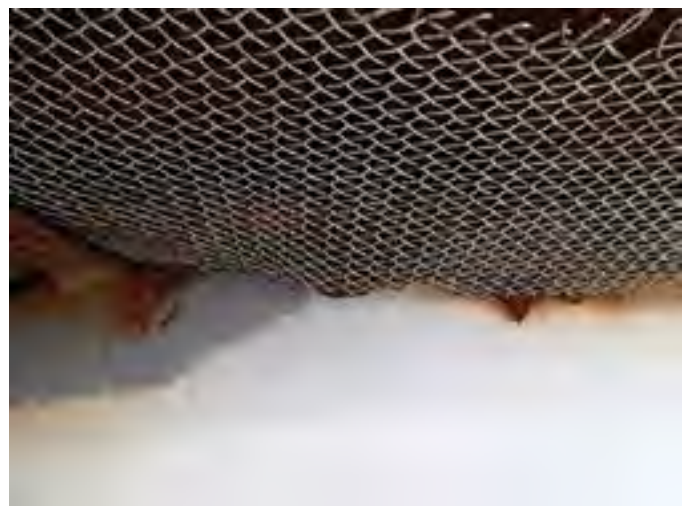
45 *Roof Dome With Nearly Expired Coating, Exposure Of The Underlying Steel And Mild Surface Corrosion*



46 *Roof Dome With Nearly Expired Coating, Exposure Of The Underlying Steel And Mild Surface Corrosion*



47 *One Of Twenty-Six Roof Dome Rigging Holes*



48 *Screened Vent*



49 *Screened Vent*



50 *Hatch*



51 *Hatch*



52 *Secured Hatch*



53 *Secured Hatch*



54 *Layer Of Precipitate*



55 *Layer Of Precipitate*



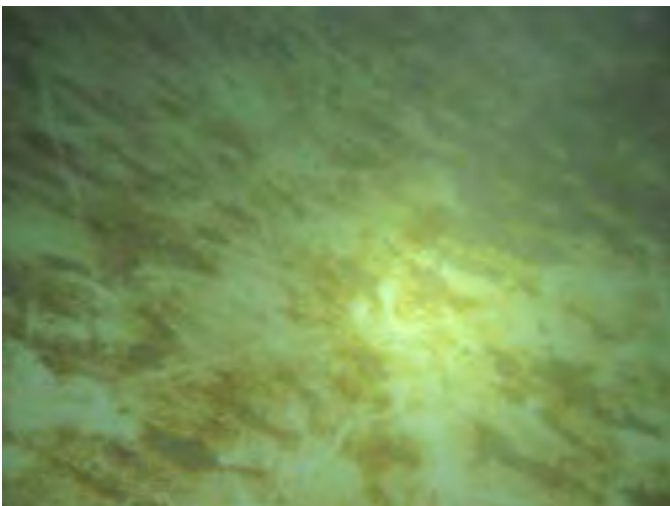
56 *Layer Of Precipitate*



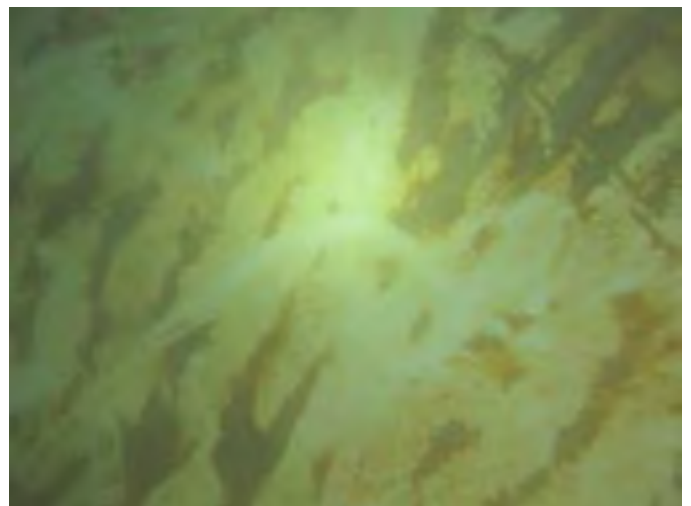
57 *Layer Of Precipitate*



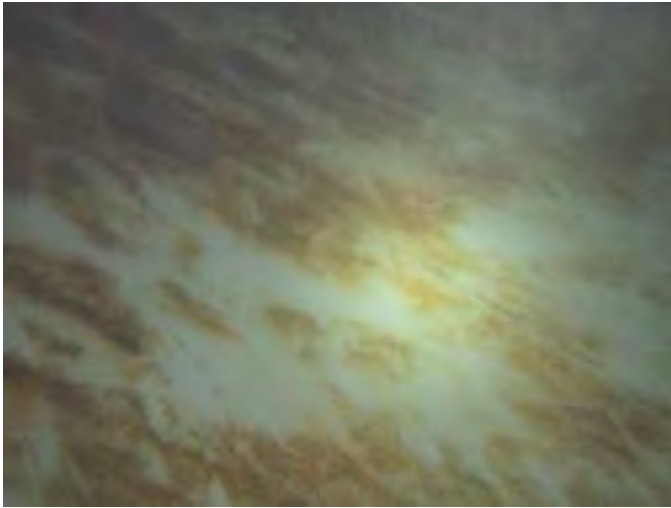
58 *Layer Of Precipitate*



59 *Floor With Moderate Staining*



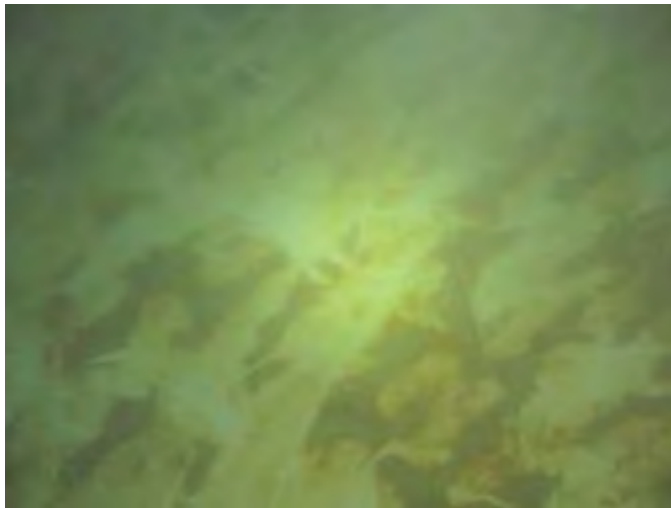
60 *Floor With Moderate Staining*



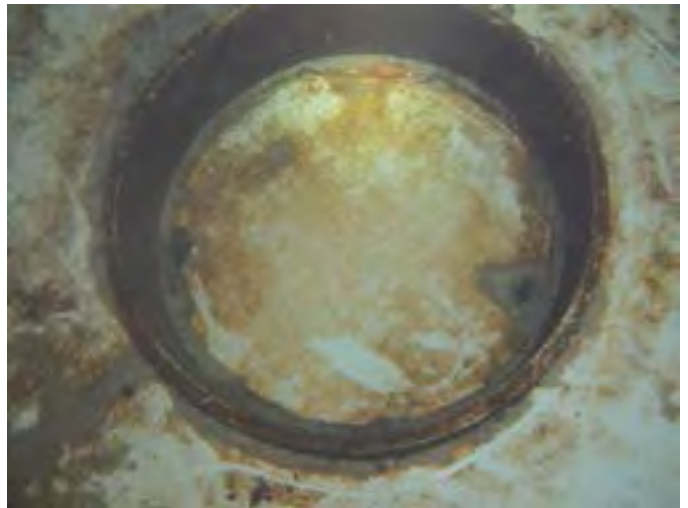
61 *Floor With Moderate Staining*



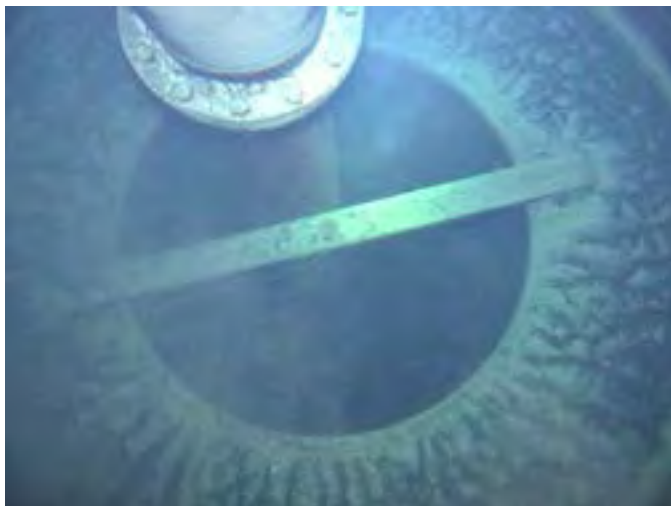
62 *Floor With Moderate Staining*



63 *Floor With Moderate Staining*



64 *Manway*



65 *Piping*



66 *Pipping With Rubber Check Valve*



67 *Piping*



68 *Interior Walls With Mild Surface Corrosion And Moderate Staining*



69 *Interior Walls With Mild Surface Corrosion And Moderate Staining*



70 *Interior Walls With Mild Surface Corrosion And Moderate Staining*



71 *Interior Walls With Mild Surface Corrosion And Moderate Staining*



72 *Interior Walls With Mild Surface Corrosion And Moderate Staining*



73 *Interior Walls With Mild Surface Corrosion And Moderate Staining*



74 *Interior Walls With Mild Surface Corrosion And Moderate Staining*



75 *Interior Walls With Mild Surface Corrosion And Moderate Staining*



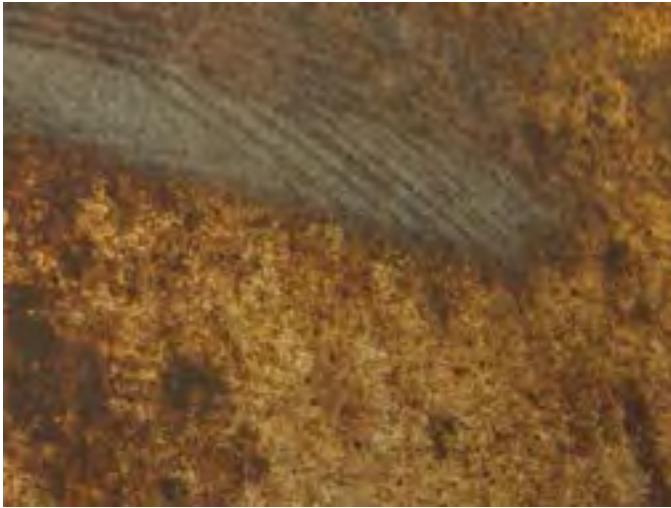
76 *Interior Walls With Mild Surface Corrosion And Moderate Staining*



77 *Interior Walls With Mild Surface Corrosion And Moderate Staining*



78 *Interior Walls With Mild Surface Corrosion And Moderate Staining*



79 *Interior Walls With Mild Surface Corrosion And Moderate Staining*



80 *Interior Walls With Mild Surface Corrosion And Moderate Staining*



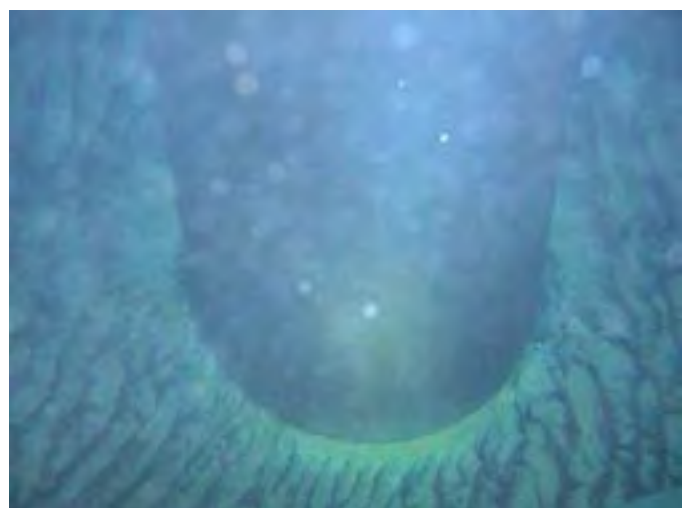
81 *Interior Walls With Mild Surface Corrosion And Moderate Staining*



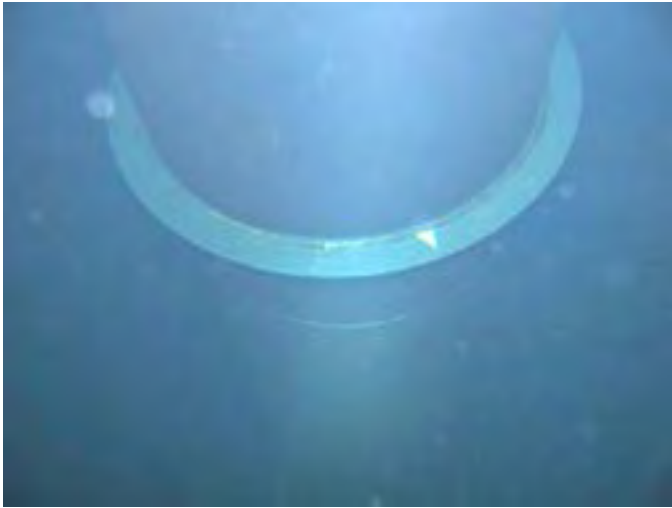
82 *Interior Walls With Mild Surface Corrosion And Moderate Staining*



83 *Interior Walls With Mild Surface Corrosion And Moderate Staining*



84 *Riser With Staining*



85 *Riser With Staining*



86 *Riser With Staining*



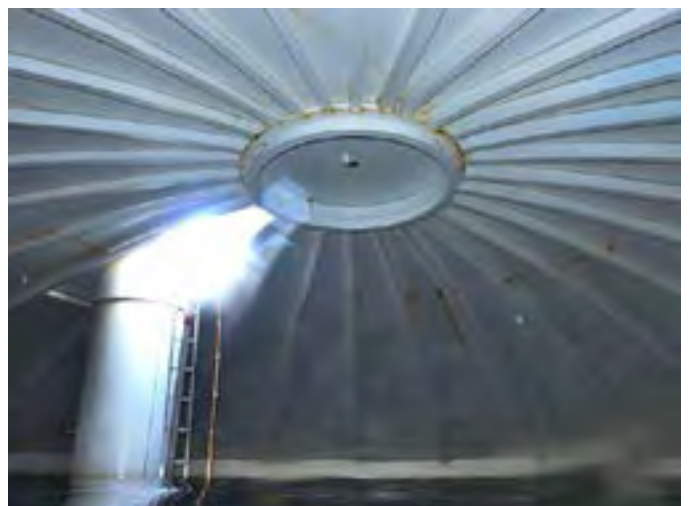
87 *Cathodic Protection System*



88 *Cathodic Protection System*



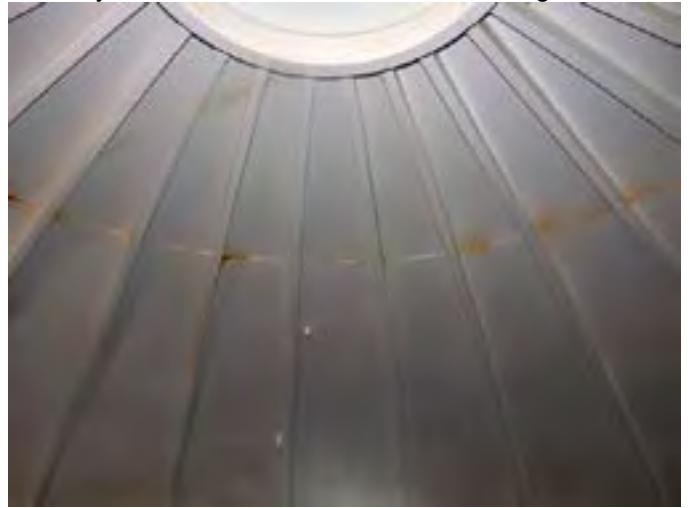
89 *Cathodic Protection System*



90 *Overhead With Mild Rust Staining*



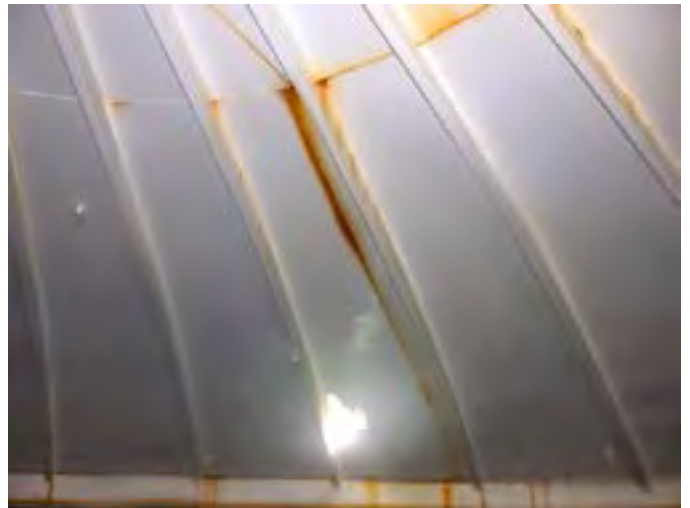
91 *Overhead With Mild Rust Staining*



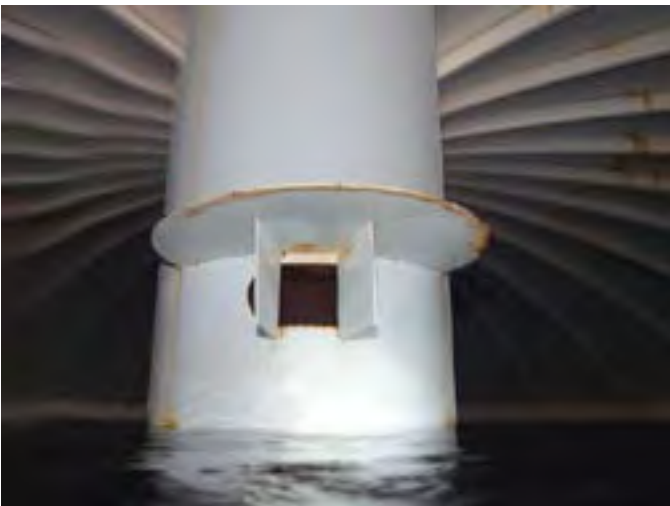
92 *Overhead With Mild Rust Staining*



93 *Overhead With Mild Rust Staining*



94 *Overhead With Mild Rust Staining*



95 *Overflow*



96 *Discharge During Cleaning*

Appendix C

North End Tank Inspection Report



***INSPECTION AND CLEANING OF THE NORTH END
500,000-GALLON WELDED STEEL WATER STORAGE TANK***

***TOWN OF NARRAGANSETT WATER DIVISION
NARRAGANSETT, RHODE ISLAND***

DECEMBER 17, 2014





***INSPECTION AND CLEANING OF THE NORTH END
500,000-GALLON WELDED STEEL WATER STORAGE TANK***

***TOWN OF NARRAGANSETT WATER DIVISION
NARRAGANSETT, RHODE ISLAND***

DECEMBER 17, 2014

SCOPE:

On December 17, 2014, Underwater Solutions Inc. conducted an inspection of the North End 500,000-gallon welded steel water storage tank to provide information regarding the overall condition and integrity of this structure and removed the sediment accumulation found on the floor of the structure.

EXTERIOR INSPECTION:

The entire exterior of this water storage tank was inspected to include walls and coating, foundation, anchor bolts, manway, ladder and safety cage, overflow, roof, vent and hatch.

Walls And Coating

The welded steel exterior wall panels, to include the welds between panels, were inspected and found to have sound structural conditions, yet numerous 1" to 3" diameter coating chips were found within the lowest 40' of the tank.

These coating chips appeared to be the result of objects striking these surfaces and yield exposed steel and mild surface corrosion at this time.

Ten, 6" by 6" areas of damaged coating exist on the southernmost side of the tank as a result of interior welding, which has caused mild surface corrosion of the steel. No obvious fatigue (pitting) of the steel was evident within these areas showing damaged coating and exposed steel.

***INSPECTION AND CLEANING OF THE NORTH END
500,000-GALLON WELDED STEEL WATER STORAGE TANK
TOWN OF NARRAGANSETT WATER DIVISION
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DECEMBER 17, 2014
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The protective coating applied to all remaining steel wall surfaces has expired. Cracking of the coating system was observed throughout approximately 75% of each row of wall panels and throughout all elevations of the tank. Peeling and lifting of the protective coating was also observed throughout approximately 5% of each wall panel, while blotch rusting shows through the coating throughout approximately 25% of each row of wall panels due to a decline in coating film thickness.

An accumulation of mildew throughout all elevations of the exterior walls reduces the overall aesthetics of this potable water storage tank.

Foundation

The concrete foundation ranges from 36" to 48" in width and from 8" to 12" in height. These concrete surfaces were found having tight surface cracks throughout approximately 5% of the circumference of the foundation. These cracks were sounded and no obvious voids or spalls were evident at this time.

An adhesive sealant applied throughout the circumference of the tank at the junction of where the foundation and lowest row of wall panels meet has failed and lost adhesion throughout approximately 25% of the circumference of the tank. The concrete sealant located behind the adhesive sealant remains sound, preventing moisture from accumulating beneath the tank.

Anchor Bolts

Twelve, 2-1/2" diameter anchor bolts extend up from the foundation through 15" tall steel chairs welded to the lowest row of wall panels.

All anchor bolts are secured with one nut, while the protective coating applied to these steel surfaces is nearing expiration. This condition has resulted in coating loss and steel exposure on approximately 5% of each anchor bolt, nut and chair. No obvious fatigue or deterioration of this steel hardware was evident, rather mild to moderate surface corrosion exists at this time.

Manway

One 24" inside diameter manway was inspected penetrating the lowest wall panel, located approximately 17" above the ground.

This manway was found securely bolted in place, while no leakage was evident at the time of this inspection.

***INSPECTION AND CLEANING OF THE NORTH END
500,000-GALLON WELDED STEEL WATER STORAGE TANK
TOWN OF NARRAGANSETT WATER DIVISION
NARRAGANSETT, RHODE ISLAND
DECEMBER 17, 2014
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The protective coating applied to these steel surfaces is nearing expiration and is cracked throughout less than 5% of these surfaces, causing a mild rust stain. The hardware that secures this manway was found without a protective coating applied, which has also caused rust stain throughout these surfaces.

Ladder And Safety Cage

A welded steel ladder and safety cage extends from approximately 16' above the ground up to the roof and is supported to the tank wall with twelve sets of welded standoffs. A fall prevention device is installed throughout the length of this ladder, providing safe access to the roof.

The protective coating applied to the steel surfaces of the ladder and safety cage shows a decline in coating film thickness and is thinning. This condition has caused blotch rusting to show through the coating throughout approximately 5% of the length of this structure.

The aluminum fall prevention device installed throughout the length of this ladder remains in good working condition, yet was found without a protective coating applied at this time.

A second welded steel ladder extends from the edge of the roof dome up to the vent and is supported with one bolted bracket. Two sets of wheels are installed on this ladder, allowing the ladder to rotate throughout the circumference of the roof.

This ladder remains sound and free of obvious fatigue or failures. The protective coating applied to these steel surfaces has declined in film thickness and is thinning. This condition has caused blotch rusting to show through the coating throughout approximately 5% of the length of this ladder.

Overflow

An 8" inside diameter overflow pipe exits the top wall panel, located approximately 24" below the roof and wall junction and extends away from the tank 10" to a 90° elbow. This pipe is then directed downward and supported to the tank wall with thirteen welded standoffs and terminates approximately 8" above a concrete splash pad.

This overflow pipe was free of obvious obstructions and has a screen installed at its end, preventing access to the interior of the pipe/tank.

The protective coating applied to this welded steel overflow pipe has declined in film thickness and is thinning. This condition has caused blotch rusting to show through the coating throughout approximately 75% of the length of this pipe.

***INSPECTION AND CLEANING OF THE NORTH END
500,000-GALLON WELDED STEEL WATER STORAGE TANK
TOWN OF NARRAGANSETT WATER DIVISION
NARRAGANSETT, RHODE ISLAND
DECEMBER 17, 2014
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Roof

The welded steel roof dome was found sound and free of obvious fatigue (pitting) of the steel at this time.

The protective coating applied to these welded steel surfaces is nearing expiration and is beginning to crack throughout approximately 5% of the dome and has also declined in film thickness, causing thinning of the coating. This condition has resulted in blotch rusting to show through the coating throughout approximately 10% of these surfaces at this time.

Vent

The vent is located within the center of the roof, having a 12" inside diameter and stands 24" tall.

A 30" outside diameter steel cap and associated screening was found securely installed over this vent, preventing access to the interior.

Hatch

One 24" inside diameter hatch provides access to the interior through the roof.

This hatch remains in good working condition and was found properly secured with a lock, preventing unwanted access.

INTERIOR INSPECTION:

The entire interior of this water storage tank was inspected to include sediment accumulations, floor, manway, piping, walls and coating, cathodic protection system, overhead, overflow and aesthetic water quality.

Sediment Accumulations

A uniform layer of accumulated precipitate was found on all floor surfaces, averaging 1/4" in depth.

Upon completing this inspection, all floor surfaces were vacuumed.

***INSPECTION AND CLEANING OF THE NORTH END
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Floor

After removing the accumulated precipitate, these welded steel floor panels, to include the welds between panels, were inspected and found appearing sound and free of obvious fatigue (pitting) of the steel at this time.

The protective coating applied to these floor surfaces was found to have coating blisters throughout approximately 10% of the panels.

Approximately 75% of these coating blisters have ruptured, causing exposure of the steel and mild surface corrosion.

Mild staining exists throughout all floor surfaces due to the accumulation of precipitate.

Manway

One 24" inside diameter manway was inspected from the interior of the tank penetrating the lowest wall panel and located approximately 17" above the floor. This manway was found securely in place and free of obvious leakage.

The protective coating applied to the steel surfaces of this manway remains having good adhesion value, while one ruptured coating blister was found located at the top of the outer edge of the manway trunk, causing exposure of the underlying steel. No obvious fatigue or deterioration of these steel surfaces was evident, rather mild surface corrosion exists at this time.

Piping

Two pipes were inspected within this water storage tank.

The first pipe inspected penetrates the center of the floor, having a 12" inside diameter and extends up approximately 10" to a "T" fitting. This "T" fitting has an additional "T" fitting extending from one side, having a stainless steel grate installed on either end. Each of these stainless steel grates was free of obvious obstructions and without flow at the time of this inspection.

The other side of this "T" extends across the floor and is supported by two standoffs. This pipe extends to within 12" of the wall where a 90° elbow directs the pipe upward and is supported to the wall with ten welded standoffs and terminates approximately 100' above the floor.

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Four rubber valves extend off this 12" inside diameter pipe, two being located approximately 50' above the floor. One is also located approximately 75' above the floor and the final valve is located at the top of the pipe.

Each of these rubber check valves were free of obvious obstructions and without flow at the time of this inspection.

The protective coating applied to this steel pipe remains having good adhesion value, providing good protection for these surfaces.

The second pipe inspected penetrates the center of the floor, having a 4" inside diameter and is flush with the floor.

This pipe was free of obvious obstructions and without flow at the time of this inspection.

Walls And Coating

The interior welded steel wall surfaces were inspected, beginning at the floor and by spiraling the circumference of the tank up to the water surface.

These interior wall panels, to include welds between each panel, were found remaining sound and free of obvious fatigue (pitting) of the steel. The protective coating applied to these surfaces shows signs of expiration throughout all elevations of the tank.

Blistering of the coating was observed throughout approximately 25% of these surfaces and at all elevations of the tank due to adhesion loss.

Approximately 35% of these coating blisters have ruptured, exposing the underlying steel and causing mild surface corrosion.

Blotch rusting was also observed throughout approximately 75% of the top two rows of wall panels due to a decline in film thickness (thinning) of the coating system.

Although coating failure was observed throughout all elevations of the interior walls, the majority of coating failure is located throughout the top three walls of wall panels within the working zone of where the water level fluctuates.

Moderate staining exists on all wall surfaces, beginning approximately 24" below overflow level and extending down to the floor.

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Cathodic Protection System

The cathodic protection system within this tank consists of a cable that penetrates the lowest wall panel, located approximately 24" above the floor and extending to the center of the tank where it is anchored to a steel pad eye.

This cable then extends upward and is supported with a float, allowing the top of the cable to hang approximately 80' above the floor.

This cable system appeared intact and without obvious failures, yet was not tested at the time of this inspection.

Overhead

The entire overhead was inspected from the water surface.

These overhead panels and angle iron supports were found appearing sound and without fatigue or failures at the time of this inspection.

The protective coating applied to these overhead surfaces was found to have declined in film thickness, causing blotch rusting to show through the coating throughout approximately 75% of these surfaces.

Overflow

The overflow consists of an 8" inside diameter pipe penetrating the top wall panel, located approximately 24" below the roof and wall junction. This pipe then extends into the tank 12" to a 90° elbow, directing it upward and terminating approximately 4" below the roof and wall junction.

This overflow pipe was free of obvious obstructions at the time this inspection was completed.

Aesthetic Water Quality

The aesthetic water quality was good throughout this entire tank, allowing unlimited visibility for this inspection.

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CONCLUSION:

It is the opinion of Underwater Solutions Inc. that this welded steel potable water storage tank remains mostly sound and without leakage, yet requires rehabilitation within the near future, as the coating system applied to all exterior surfaces and all exterior components has expired, The coating system applied to all interior surfaces and interior components is nearing expiration.

The exterior steel wall panels and the welds between panels appeared sound, and free of obvious fatigue (pitting) of these steel surfaces at the time this inspection was completed.

The protective coating applied to all elevations of the exterior walls has expired resulting in varying degrees of coating loss, steel exposure and surface corrosion. Blotch rusting shows through the coating throughout all elevations of each row of wall panels due a decline in coating film thickness.

Ten, 6" by 6" areas of damaged coating observed on the southernmost side of the tank appear to be the result of interior welding and has caused mild surface corrosion of the steel. No obvious fatigue (pitting) of the steel was evident within these areas showing coating damage and exposed steel at this time.

All exterior components, to include the anchor bolts, manway, ladder and safety cage, and overflow pipe, also show varying degrees of coating fatigue due to near expiration of the protective coating applied to these surfaces. No obvious fatigue or deterioration of the surfaces of these steel components was evident at the time this inspection was completed.

The surfaces of the welded steel roof dome remain sound and free of obvious fatigue (pitting) of the steel was evident at the time this inspection was completed.

The protective coating applied to all steel roof dome surfaces and its components has nearly expired and no longer provides protection for these welded steel surfaces.

It is our recommendation that all exterior wall, roof dome and all exterior components be abrasive blasted to white or near white metal. We recommend then recoating these surfaces to halt corrosion, prevent fatigue and to provide good protection for the steel, while improving the overall aesthetics.

The tight surface cracks observed throughout the circumference of the concrete foundation were sounded and no obvious voids or spalls were evident at the time this inspection was completed.

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The adhesive sealant applied throughout the circumference of the tank at the junction of where the foundation and lowest row of wall panels meet has failed and lost adhesion throughout approximately 25% of the circumference of the tank. A concrete sealant, located behind the adhesive sealant remains sound, preventing moisture from accumulating beneath the tank.

It is our recommendation to apply a protective coating to the surfaces of the concrete foundation in an effort to seal these cracks and prevent moisture accumulation that could potentially result in spalling of the concrete. We also recommend removing the failed sealant applied at the junction of where the foundation and lowest row of wall panels meet in an effort to prevent moisture from accumulating beneath the tank.

All components affixed to this tank are properly installed at this time. The screens installed around the circumference of the vent and at the end of the overflow pipe remain secure, preventing access to the interior of the tank.

The interior surfaces of the welded steel floor, walls and overhead appeared sound and free of obvious fatigue (pitting) of these steel surfaces at the time this inspection was completed.

The protective coating applied to all interior welded steel floor, wall and overhead surfaces has nearly expired, resulting in varying degrees of coating fatigue, steel exposure and surface corrosion.

The protective coating applied to the steel mixing valve piping remains having good adhesion value at this time.

It is our recommendation that all interior welded steel surfaces be abrasice blasted to white or near white metal and then recoated to prevent further fatigue and to protect the steel using an A.N.S.I. /N.S.F.61 approved coating for use in structures containing potable water.

All piping, to include the stainless steel grates installed over the effluent piping and the rubber check valves installed over the influent piping, appeared to be properly installed and free of obvious obstructions. The flush penetration within the tank floor was also free of obvious obstructions at the time this inspection was completed.

The cathodic protection system within this tank appeared to be properly installed and free of obvious fatigue, yet was not tested at the time of this inspection.

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Upon completing this inspection, all floor surfaces were vacuumed.

As always, we recommend re-inspection and cleaning of all water storage facilities in accordance with state and federal mandates, A.W.W.A. standards, and be completed by an experienced and authorized inspection corporation.



UNDERWATER SOLUTIONS INC.
Christopher A. Cole, Project Manager

This report, the conclusions, recommendations and comments prepared by Underwater Solutions Inc. are based upon spot examination from readily accessible parts of the tank. Should latent defects or conditions which vary significantly from those described in the report be discovered at a later date, these should be brought to the attention of a qualified individual at that time. These comments and recommendations should be viewed as information to be used by the Owner in determining the proper course of action and not to replace a complete set of specifications. All repairs should be done in accordance with A.W.W.A. and/or other applicable standards.



1 *Exterior Wall With Coating Failure/Peeling/Lifting/ Chips, Exposed Steel, Mild Surface Corrosion, Blotch Rusting And Mildew*



2 *Exterior Wall With Coating Failure/Peeling/Lifting/ Chips, Exposed Steel, Mild Surface Corrosion, Blotch Rusting And Mildew*



3 *Exterior Wall With Coating Failure/Peeling/Lifting/ Chips, Exposed Steel, Mild Surface Corrosion, Blotch Rusting And Mildew*



4 *Exterior Wall With Coating Failure/Peeling/Lifting/ Chips, Exposed Steel, Mild Surface Corrosion, Blotch Rusting And Mildew*



5 *Exterior Wall With Coating Failure/Peeling/Lifting/ Chips, Exposed Steel, Mild Surface Corrosion, Blotch Rusting And Mildew*



6 *Exterior Wall With Coating Failure/Peeling/Lifting/ Chips, Exposed Steel, Mild Surface Corrosion, Blotch Rusting And Mildew*



7 *Exterior Wall With Coating Failure/Peeling/Lifting/ Chips, Exposed Steel, Mild Surface Corrosion, Blotch Rusting And Mildew*



8 *Exterior Wall With Coating Failure/Peeling/Lifting/ Chips, Exposed Steel, Mild Surface Corrosion, Blotch Rusting And Mildew*



9 *Exterior Wall With Coating Failure/Peeling/Lifting/ Chips, Exposed Steel, Mild Surface Corrosion, Blotch Rusting And Mildew*



10 *Exterior Wall With Coating Failure/Peeling/Lifting/ Chips, Exposed Steel, Mild Surface Corrosion, Blotch Rusting And Mildew*



11 *Exterior Wall With Coating Failure/Peeling/Lifting/ Chips, Exposed Steel, Mild Surface Corrosion, Blotch Rusting And Mildew*



12 *Exterior Wall With Coating Failure/Peeling/Lifting/ Chips, Exposed Steel, Mild Surface Corrosion, Blotch Rusting And Mildew*



13 *Exterior Wall With Coating Failure/Peeling/Lifting/ Chips, Exposed Steel, Mild Surface Corrosion, Blotch Rusting And Mildew*



14 *Exterior Wall With Coating Failure/Peeling/Lifting/ Chips, Exposed Steel, Mild Surface Corrosion, Blotch Rusting And Mildew*



15 *Exterior Wall With Coating Failure/Peeling/Lifting/ Chips, Exposed Steel, Mild Surface Corrosion, Blotch Rusting And Mildew*



16 *Exterior Wall With Coating Failure/Peeling/Lifting/ Chips, Exposed Steel, Mild Surface Corrosion, Blotch Rusting And Mildew*



17 *Exterior Wall With Coating Failure/Peeling/Lifting/ Chips, Exposed Steel, Mild Surface Corrosion, Blotch Rusting And Mildew*



18 *Exterior Wall With Coating Failure/Peeling/Lifting/ Chips, Exposed Steel, Mild Surface Corrosion, Blotch Rusting And Mildew*



19 *Exterior Wall With Coating Failure/Peeling/Lifting/Chips, Exposed Steel, Mild Surface Corrosion, Blotch Rusting And Mildew*



20 *Exterior Wall With Coating Failure/Peeling/Lifting/Chips, Exposed Steel, Mild Surface Corrosion, Blotch Rusting And Mildew*



21 *Exterior Wall With Coating Failure/Peeling/Lifting/Chips, Exposed Steel, Mild Surface Corrosion, Blotch Rusting And Mildew*



22 *Exterior Wall With Coating Failure/Peeling/Lifting/Chips, Exposed Steel, Mild Surface Corrosion, Blotch Rusting And Mildew*



23 *Exterior Wall With Coating Failure/Peeling/Lifting/Chips, Exposed Steel, Mild Surface Corrosion, Blotch Rusting And Mildew*



24 *Exterior Wall With Coating Failure/Peeling/Lifting/Chips, Exposed Steel, Mild Surface Corrosion, Blotch Rusting And Mildew*



25 *Exterior Wall With Coating Failure/Peeling/Lifting/ Chips, Exposed Steel, Mild Surface Corrosion, Blotch Rusting And Mildew*



26 *Exterior Wall With Coating Failure/Peeling/Lifting/ Chips, Exposed Steel, Mild Surface Corrosion, Blotch Rusting And Mildew*



27 *Exterior Wall With Coating Failure/Peeling/Lifting/ Chips, Exposed Steel, Mild Surface Corrosion, Blotch Rusting And Mildew*



28 *Exterior Wall With Coating Failure/Peeling/Lifting/ Chips, Exposed Steel, Mild Surface Corrosion, Blotch Rusting And Mildew*



29 *Exterior Wall With Coating Failure/Peeling/Lifting/ Chips, Exposed Steel, Mild Surface Corrosion, Blotch Rusting And Mildew*



30 *Concrete Foundation With Tight Surface Cracks And Sealant Failure*



31 *Concrete Foundation With Tight Surface Cracks And Sealant Failure*



32 *Concrete Foundation With Tight Surface Cracks And Sealant Failure*



33 *Concrete Foundation With Tight Surface Cracks And Sealant Failure*



34 *Concrete Foundation With Tight Surface Cracks And Sealant Failure*



35 *Concrete Foundation With Tight Surface Cracks And Sealant Failure*



36 *Concrete Foundation With Tight Surface Cracks And Sealant Failure*



37 *Concrete Foundation With Tight Surface Cracks And Sealant Failure*



38 *Anchor Bolts With Coating Loss, Exposed Steel And Mild To Moderate Surface Corrosion*



39 *Anchor Bolts With Coating Loss, Exposed Steel And Mild To Moderate Surface Corrosion*



40 *Anchor Bolts With Coating Loss, Exposed Steel And Mild To Moderate Surface Corrosion*



41 *Anchor Bolts With Coating Loss, Exposed Steel And Mild To Moderate Surface Corrosion*



42 *Manway With Coating Loss/Cracking And Mild Rust Staining*



43 *Manway With Coating Loss/Cracking And Mild Rust Staining*



44 *Ladder And Safety Cage And A Fall Prevention Device With Coating Loss Blotch Rusting*



45 *Ladder With Coating Loss And Blotch Rusting*



46 *Ladder With Coating Loss And Blotch Rusting*



47 *Overflow Pipe With Coating Loss And Blotch Rusting*



48 *Overflow Pipe/Splash Pad With Coating Loss And Blotch Rusting*



49 *Screened Overflow With Coating Loss And Blotch Rusting*



50 *Roof Dome With Coating Loss*



51 *Roof Dome With Coating Loss*



52 *Roof Dome With Coating Loss*



53 *Roof Dome With Coating Loss*



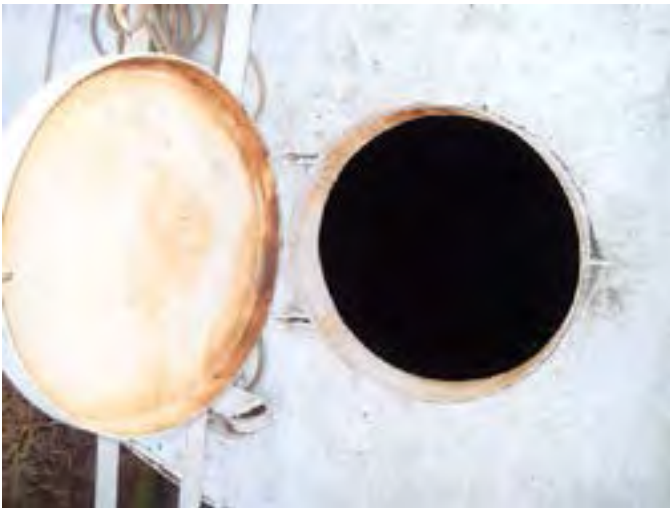
54 *Roof Dome With Coating Loss*



55 *Vent*



56 *Screened Vent*



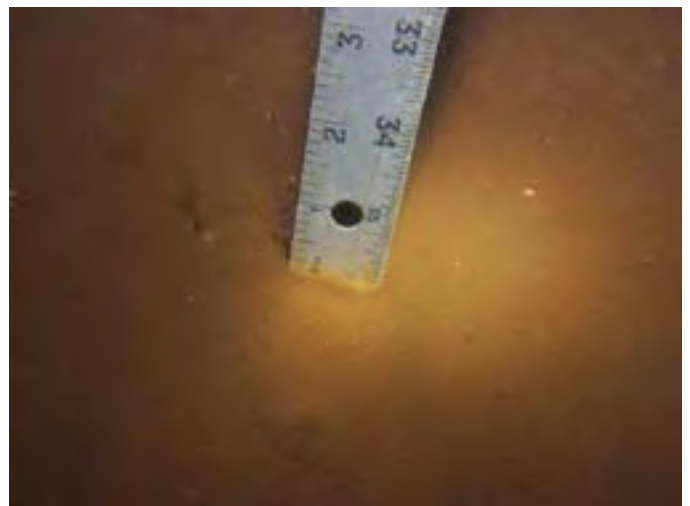
57 *Open Hatch*



58 *Secure Hatch*



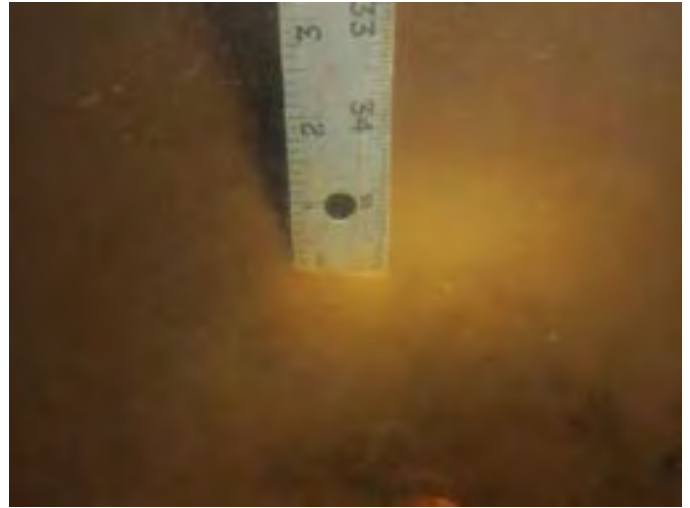
59 *Layer Of Precipitate*



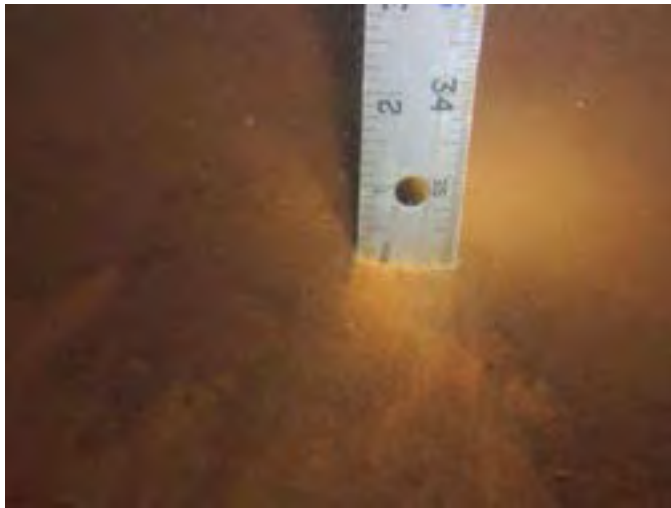
60 *Layer Of Precipitate*



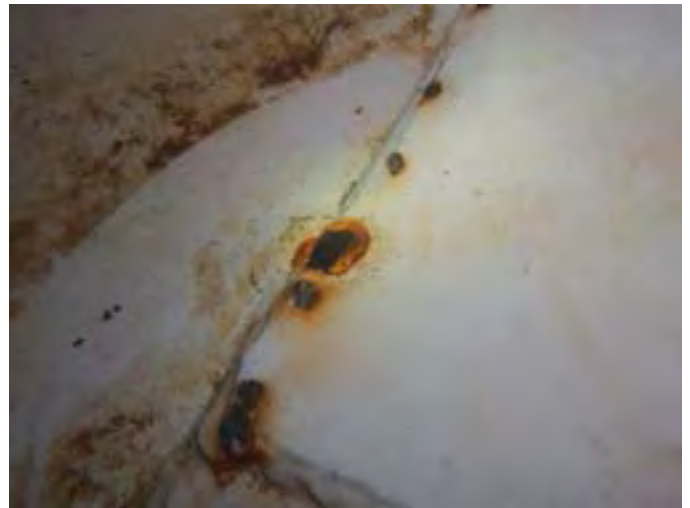
61 *Layer Of Precipitate*



62 *Layer Of Precipitate*



63 *Layer Of Precipitate*



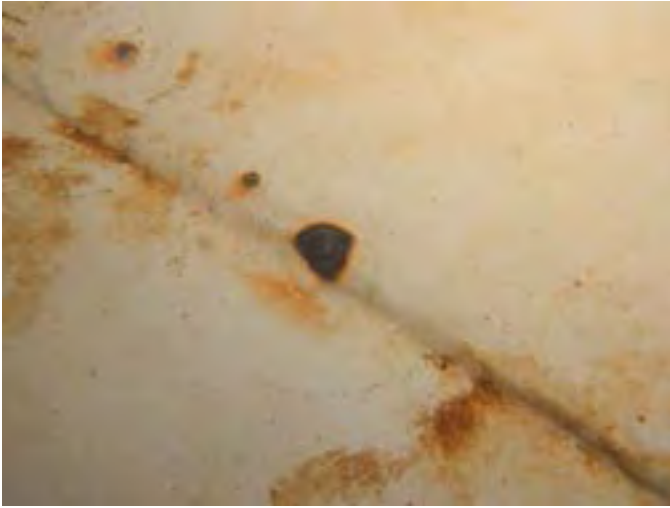
64 *Floor With Ruptured Coating Blisters, Exposed Steel, Mild Surface Corrosion And Mild Staining*



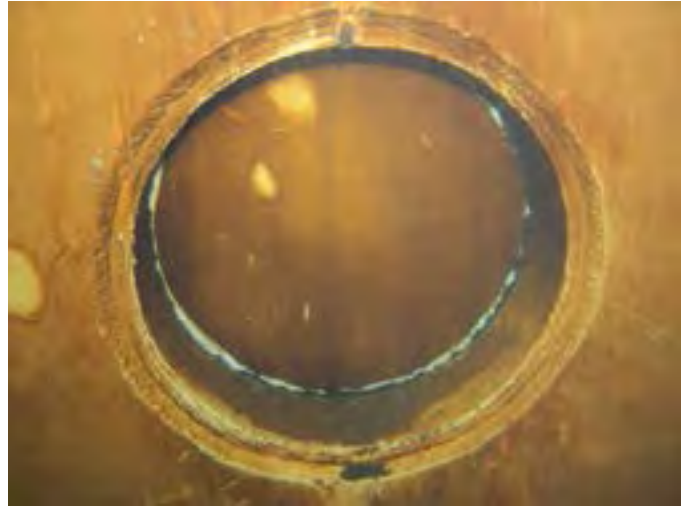
65 *Floor With Ruptured Coating Blisters, Exposed Steel, Mild Surface Corrosion And Mild Staining*



66 *Floor With Ruptured Coating Blisters, Exposed Steel, Mild Surface Corrosion And Mild Staining*



67 *Floor With Ruptured Coating Blisters, Exposed Steel, Mild Surface Corrosion And Mild Staining*



68 *Manway With Ruptured Coating Blister, Exposed Underlying Steel And Mild Surface Corrosion*



69 *Piping*



70 *Piping*



71 *Piping*



72 *Piping*



73 *Piping/Rubber Check Valve*



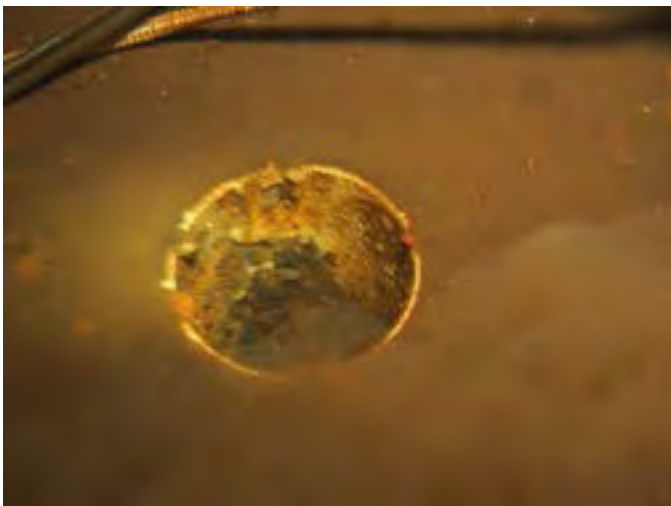
74 *Piping/Rubber Check Valve*



75 *Piping/Rubber Check Valve*



76 *Piping/Rubber Check Valve*



77 *Piping*



78 *Interior Wall With Coating Loss/Failure, Ruptured Coating Blisters, Exposed Underlying Steel, Blotch Rusting And Moderate Staining*



79 *Interior Wall With Coating Loss/Failure, Ruptured Coating Blisters, Exposed Underlying Steel, Blotch Rusting And Moderate Staining*



80 *Interior Wall With Coating Loss/Failure, Ruptured Coating Blisters, Exposed Underlying Steel, Blotch Rusting And Moderate Staining*



81 *Interior Wall With Coating Loss/Failure, Ruptured Coating Blisters, Exposed Underlying Steel, Blotch Rusting And Moderate Staining*



82 *Interior Wall With Coating Loss/Failure, Ruptured Coating Blisters, Exposed Underlying Steel, Blotch Rusting And Moderate Staining*



83 *Interior Wall With Coating Loss/Failure, Ruptured Coating Blisters, Exposed Underlying Steel, Blotch Rusting And Moderate Staining*



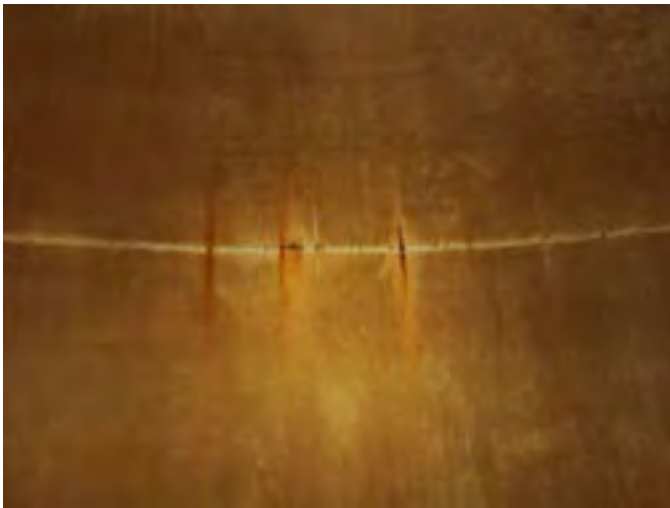
84 *Interior Wall With Coating Loss/Failure, Ruptured Coating Blisters, Exposed Underlying Steel, Blotch Rusting And Moderate Staining*



85 *Interior Wall With Coating Loss/Failure, Ruptured Coating Blisters, Exposed Underlying Steel, Blotch Rusting And Moderate Staining*



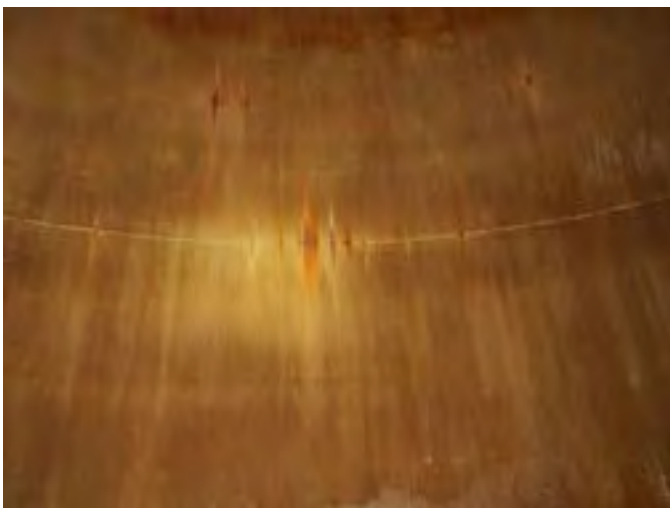
86 *Interior Wall With Coating Loss/Failure, Ruptured Coating Blisters, Exposed Underlying Steel, Blotch Rusting And Moderate Staining*



87 *Interior Wall With Coating Loss/Failure, Ruptured Coating Blisters, Exposed Underlying Steel, Blotch Rusting And Moderate Staining*



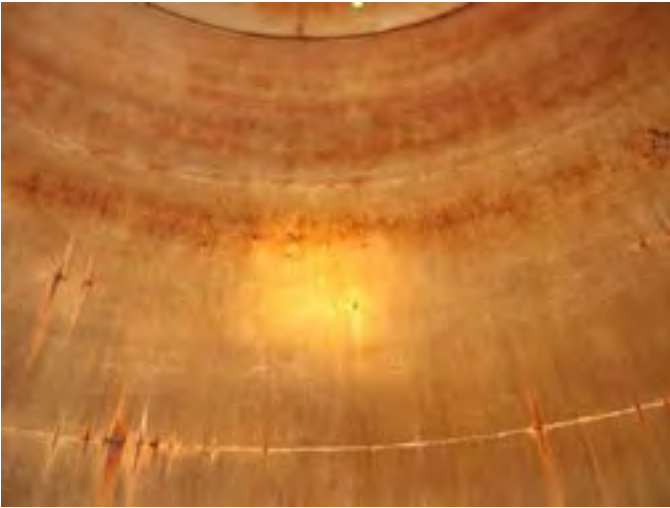
88 *Interior Wall With Coating Loss/Failure, Ruptured Coating Blisters, Exposed Underlying Steel, Blotch Rusting And Moderate Staining*



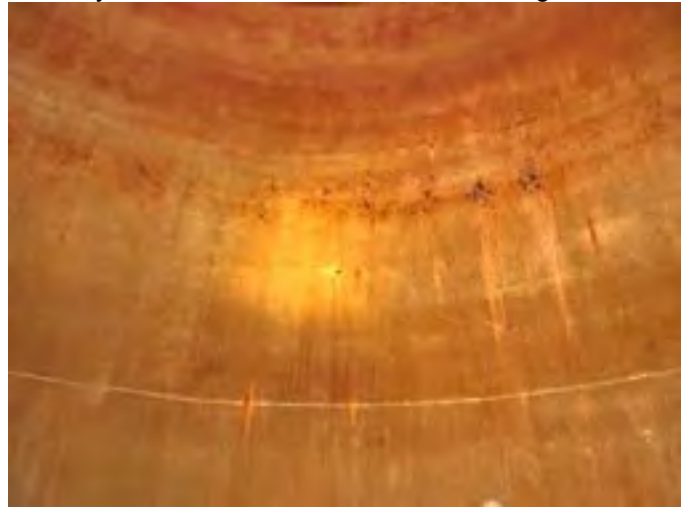
89 *Interior Wall With Coating Loss/Failure, Ruptured Coating Blisters, Exposed Underlying Steel, Blotch Rusting And Moderate Staining*



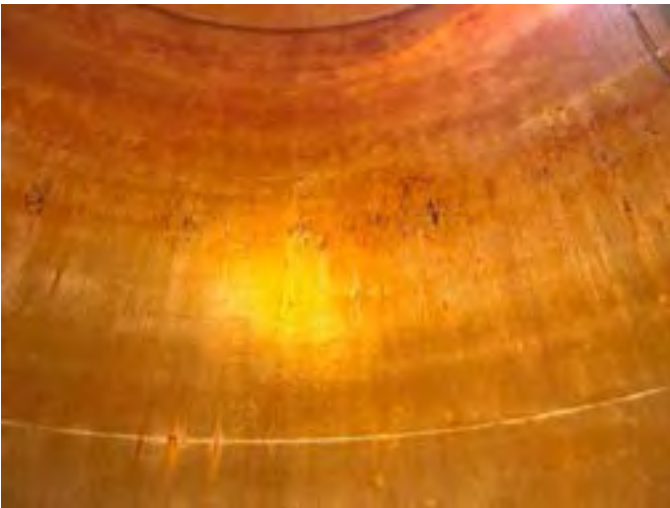
90 *Interior Wall With Coating Loss/Failure, Ruptured Coating Blisters, Exposed Underlying Steel, Blotch Rusting And Moderate Staining*



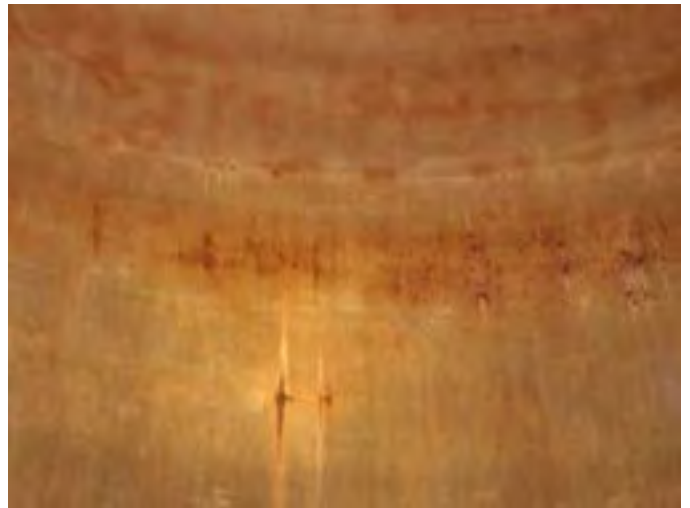
91 *Interior Wall With Coating Loss/Failure, Ruptured Coating Blisters, Exposed Underlying Steel, Blotch Rusting And Moderate Staining*



92 *Interior Wall With Coating Loss/Failure, Ruptured Coating Blisters, Exposed Underlying Steel, Blotch Rusting And Moderate Staining*



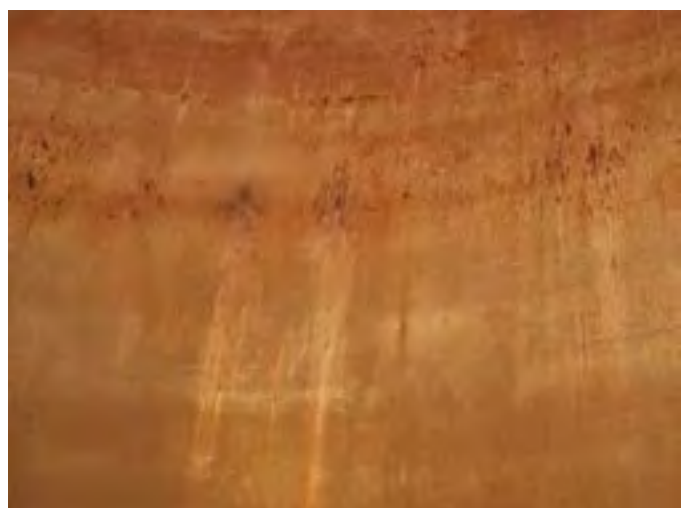
93 *Interior Wall With Coating Loss/Failure, Ruptured Coating Blisters, Exposed Underlying Steel, Blotch Rusting And Moderate Staining*



94 *Interior Wall With Coating Loss/Failure, Ruptured Coating Blisters, Exposed Underlying Steel, Blotch Rusting And Moderate Staining*



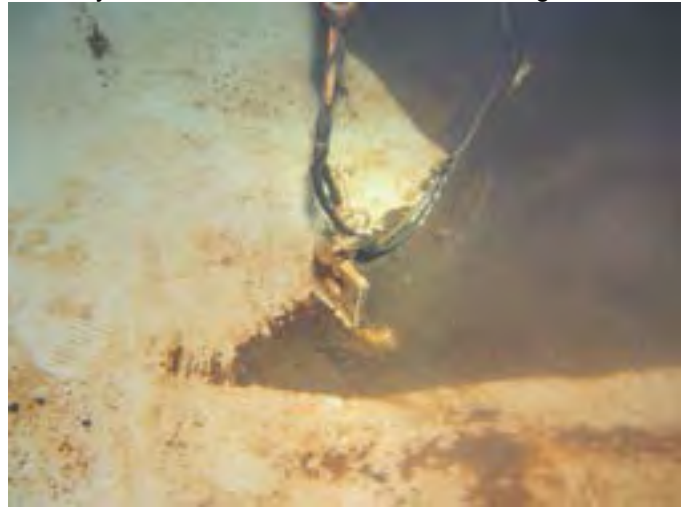
95 *Interior Wall With Coating Loss/Failure, Ruptured Coating Blisters, Exposed Underlying Steel, Blotch Rusting And Moderate Staining*



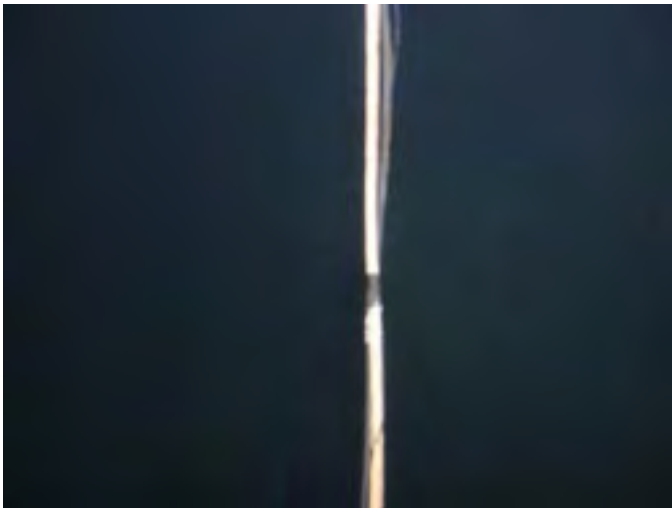
96 *Interior Wall With Coating Loss/Failure, Ruptured Coating Blisters, Exposed Underlying Steel, Blotch Rusting And Moderate Staining*



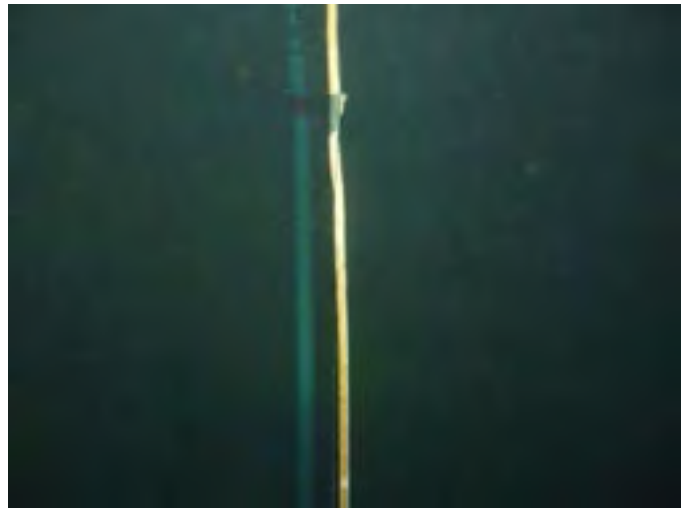
97 *Cathodic Protection System*



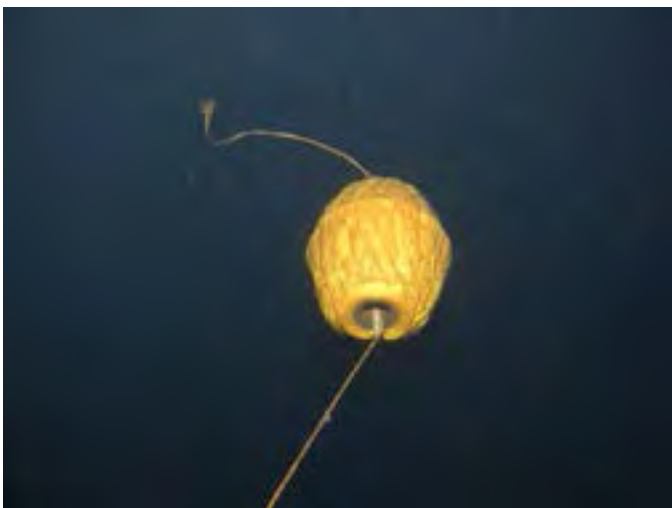
98 *Cathodic Protection System*



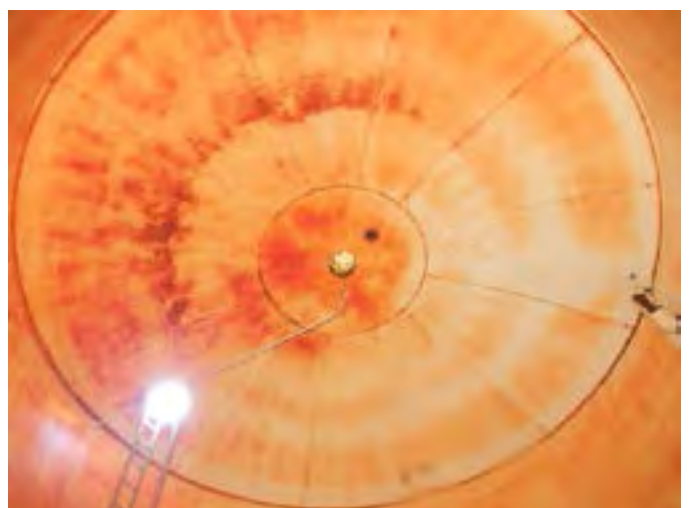
99 *Cathodic Protection System*



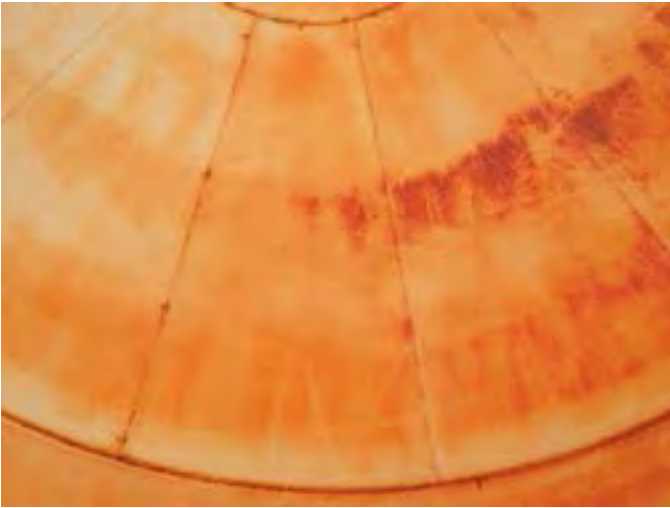
100 *Cathodic Protection System*



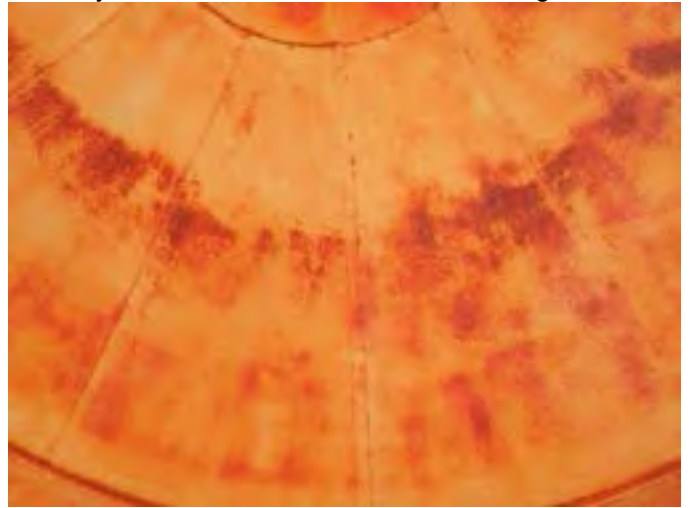
101 *Cathodic Protection System*



102 *Overhead With Coating Loss, And Blotch Rusting*



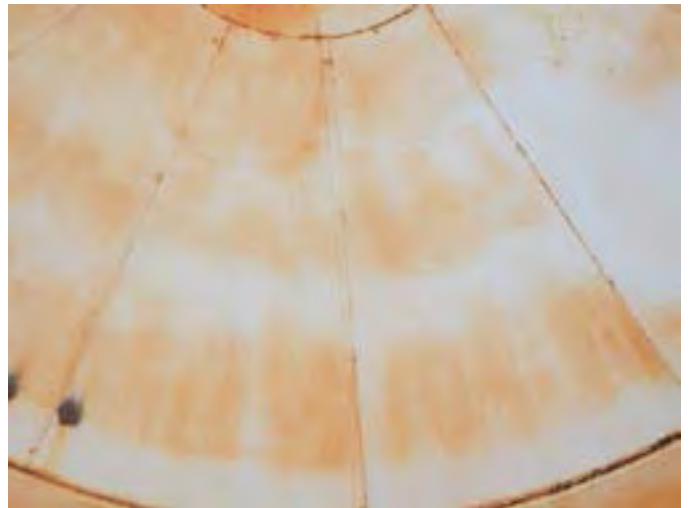
103 *Overhead With Coating Loss, And Blotch Rusting*



104 *Overhead With Coating Loss, And Blotch Rusting*



105 *Overhead With Coating Loss, And Blotch Rusting*



106 *Overhead With Coating Loss, And Blotch Rusting*



107 *Overflow*



108 *Discharge During Cleaning*

Appendix D

RI Department of Health – Certificate of Adequate Curing of Tank Coating Form

Rehabilitation of Kinney Avenue and North End Water Storage Tanks
DRINKING WATER STORAGE TANKS
CERTIFICATION OF ADEQUATE CURING OF TANK COATING

PWS _____ PWS ID # _____

Name/location of tank _____

Paint Product Name _____

NSF 61 (or equal) certified? Yes No % VOC's _____ Number of coats _____

PAINT APPLICATION	Date(s) paint applied:	method	Air temp. (F)
PRIME			
INTERMEDIATE			
FINISH			

ALLOWED (attach product data sheet)

THINNING _____ % max
 (_____ ounces / gallon max)

Finished Coating Thickness

CURE TIME REQUIRED
 (attach Curing Curves from the coating manufacturer)

Temperature	Time Required

Attach any test results performed by the painting contractor:

- ASTM D 5402 "solvent rub test"
- ASTM D 3363 "Hardness pencil test"
- Other _____

ACTUAL

THINNING _____ %
 (_____ ounces / gallon)

Finished Coating Thickness (SSPC-PA2 method)

Temperature during curing
 Attach chart recorder or complete chart

Date	Air Temperature inside tank	Surface Temperature inside tank floor

Comments _____

Certified by: _____

Date: _____



Office of Drinking Water Quality

Appendix E

Telecommunications Company Lease Agreement and Tenants

6.1 TENANT shall have access to the Premises at all times for purposes of maintaining and improving TENANT's equipment. However, TENANT agrees that at least five days (5) prior to the commencement of any construction work or installation of communications equipment by or on behalf of the TENANT, TENANT will cause to be delivered to the TOWN a notice of non-responsibility on behalf of TOWN, giving notice that the TOWN is not responsible for any work, labor or material used or expended or to be used or expended on the Premises; provided, however, that such notice of non-responsibility shall not be necessary in order for the TENANT to perform ordinary maintenance of the TENANT's equipment or to perform construction work on installations necessary by reason of emergency (provided that in the case of any such emergency work or installations, the TENANT gives the TOWN a notice of non-responsibility as soon as is reasonably possible under the circumstances).

6.2 The TOWN, may, at its discretion, perform all manner of maintenance and site improvements and upgrades, whether routine or not, related to the operation of a municipal water system. These improvements may include, but are not limited to, cleaning, painting, structural and non-structural metal works, new construction, demolition, utility, and site work. The TOWN will endeavor to provide advance notice to the TENANT prior to performing said improvements, but is under no obligation to so notify the TENANT within a specific time frame. The TOWN will make all appropriate efforts to protect the TENANT'S installed communications equipment from damage due to said improvements, but makes no guarantee thereof. The TENANT will be allowed reasonable access to the site (pursuant to Section 18.5 of this agreement) for the purpose of protection, securing, removing, or relocating his equipment as may be necessary due to said improvements.

The nature of said improvements may require that the TENANT temporarily remove and/or relocate certain communications equipment. The TOWN will cooperate with the TENANT in an effort to identify an alternate location for said equipment during the period of improvements. Should the TOWN so determine, depending on the extent of the site improvements (particularly new construction or demolition) that said work cannot be performed given the existence of the TENANT'S equipment, then the TOWN reserves the right to order the TENANT to remove any and all equipment either temporarily or permanently, and will work with the TENANT to develop a schedule for same. Any such protection, relocation, or removal of the TENANT'S equipment shall be at the sole expense of the TENANT.

SECTION 7. ASSIGNMENT/SUBLEASE. TOWN may assign this Lease, provided said assignee will assume, recognize and become responsible to TENANT for the performance of all of the terms and conditions to be performed by TOWN under this Lease. TOWN agrees that TENANT may assign or sublet this Lease in whole or part to any person or business entity which is licensed by the FCC to operate wireless communications, is a parent, subsidiary or affiliate of TENANT, controls or is controlled by or under common control with TENANT, is merged or consolidated with TENANT or purchases a majority or controlling interest in the ownership or assets of TENANT. TENANT may not otherwise assign or sublet this Lease without TOWN's consent. Additionally, TENANT may mortgage, assign and/or grant a security interest in this Lease and the Radio Link, to TENANT's mortgagees or holders of security interests, including their successors or assigns (hereinafter collectively referred to as "Mortgagees") provided such Mortgagees agree to be bound by the terms and provisions of this Lease. In such event, TOWN

Town of Narragansett

Kinney Avenue & North End Water Storage Tanks

Telecommunications Tenants

Kinney Avenue Tank

Metro PCS / T-Mobile – Contact: Tresca McKay, tel. 877-373-0093

Town of Narragansett – Police Department, tel. 401-789-1091

North End Tank

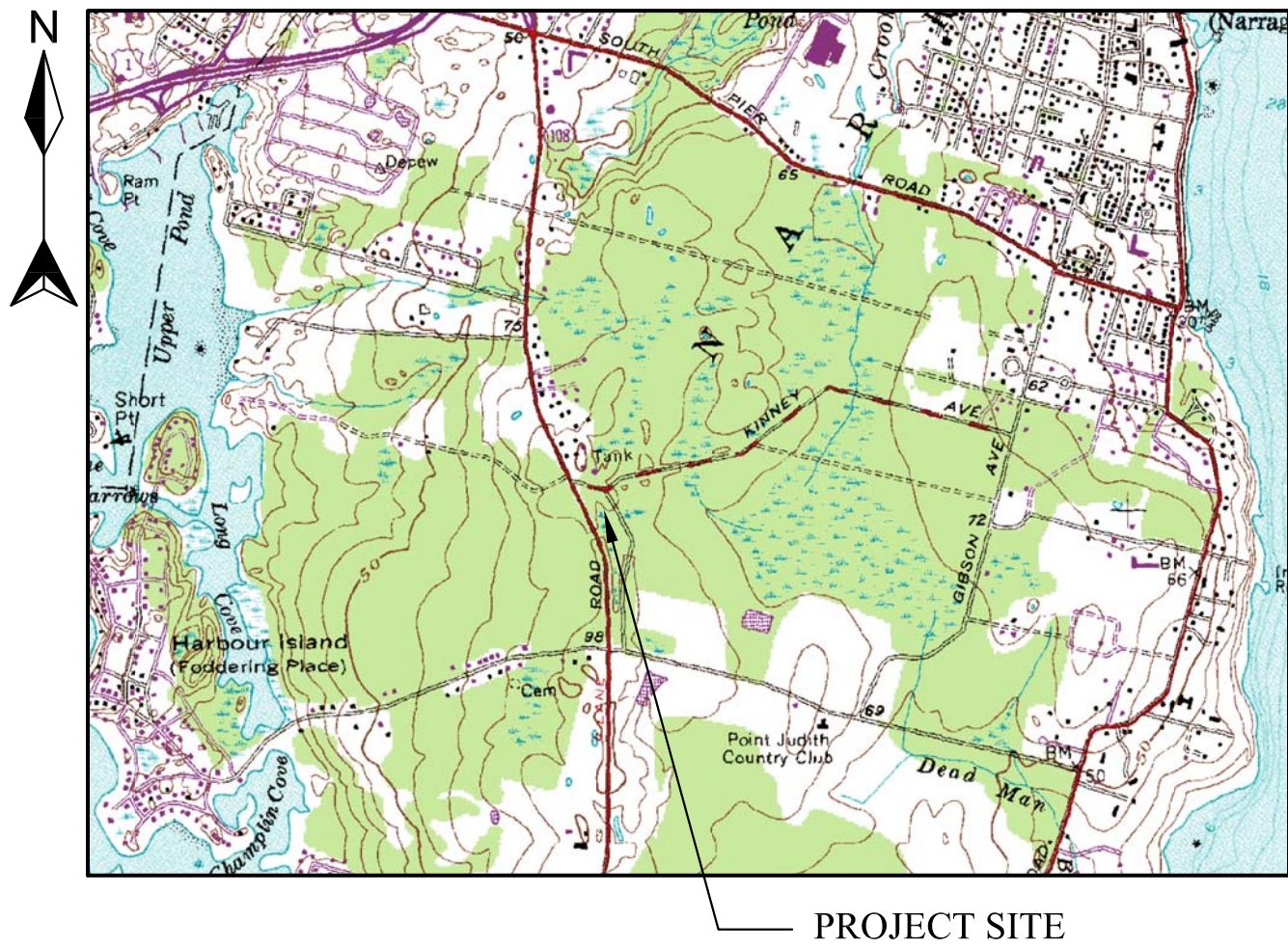
Union Fire District – Tel. 401-789-8354

Appendix F

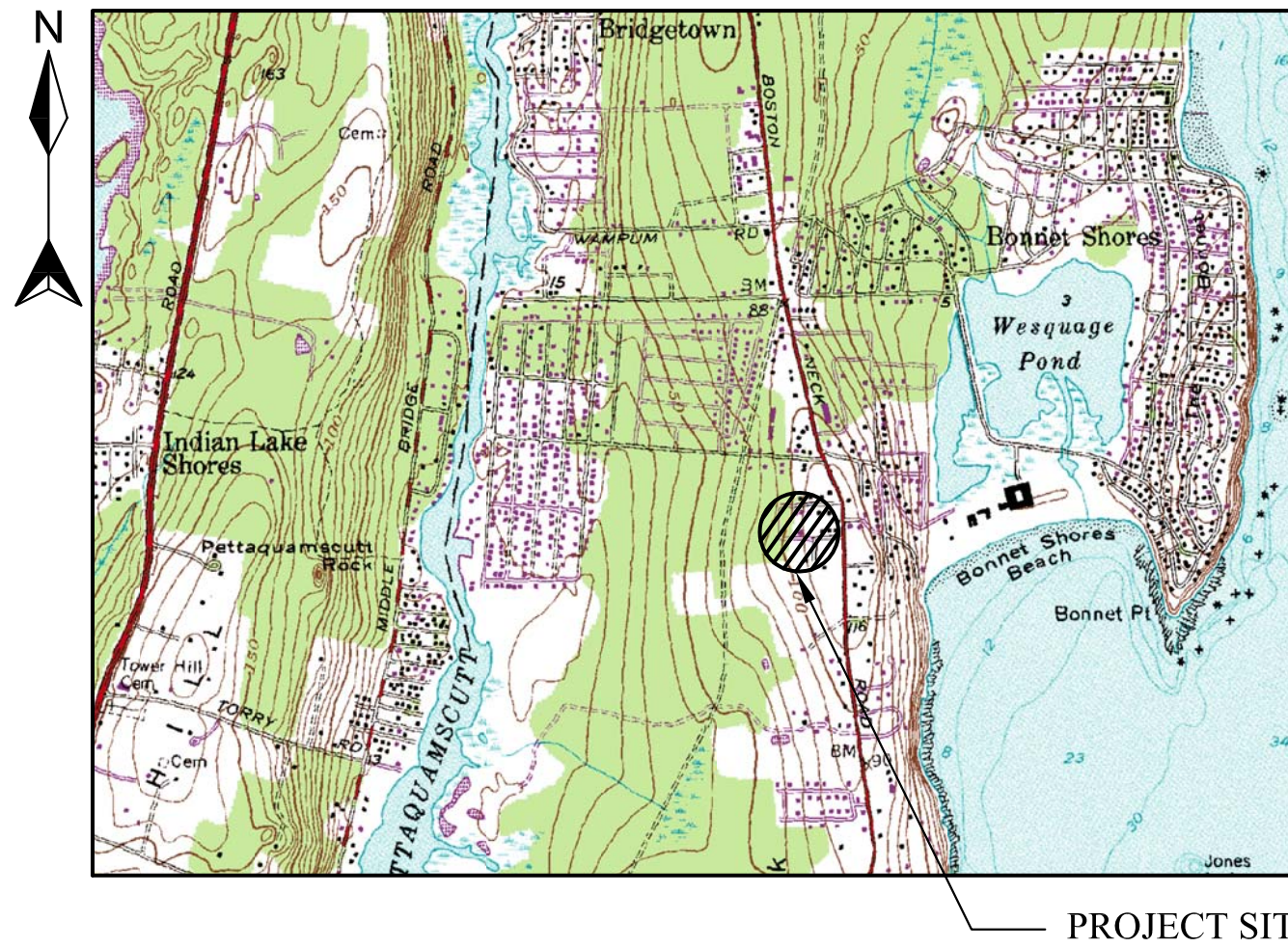
Water Storage Tanks Rehabilitation Plans

TOWN OF NARRAGANSETT RHODE ISLAND

WATER SUPPLY SYSTEM



LOCUS MAP OF KINNEY AVENUE STANDPIPE
APPROX. SCALE 1" = 2000'



LOCUS MAP OF NORTH END STANDPIPE
APPROX. SCALE 1" = 2000'

INDEX OF DRAWINGS

SHEET NO.	DESCRIPTION
----	COVER SHEET
G-1	GENERAL NOTES, LEGEND & ABBREVIATIONS
C-1	KINNEY AVENUE & NORTH END WATER STORAGE TANK PLANS & SECTIONS
D-1	DETAILS

REHABILITATION OF KINNEY AVENUE AND NORTH END WATER STORAGE TANKS

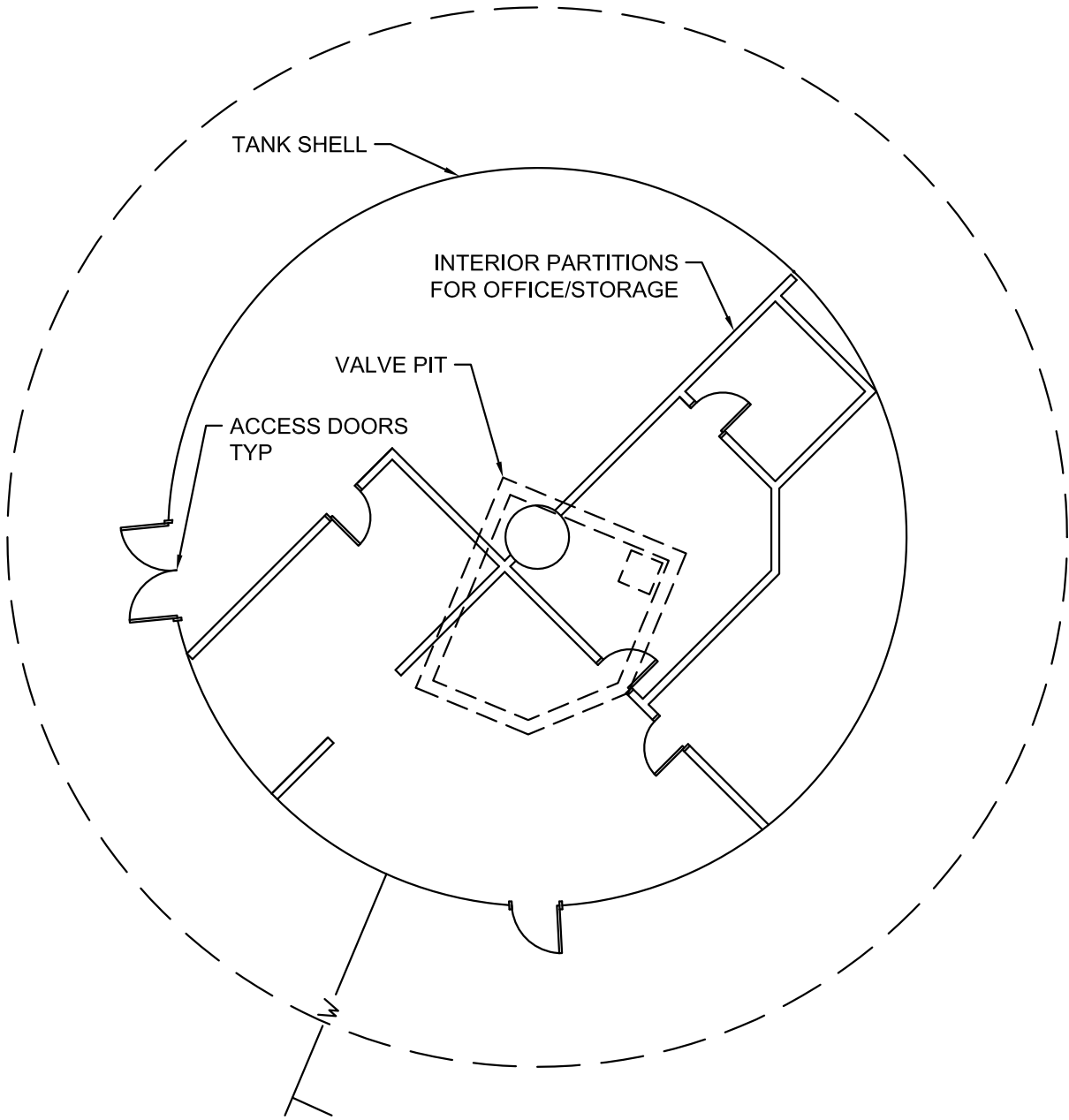
NARRAGANSETT, RHODE ISLAND

C&E PROJECT NO. J1034.03
AUGUST 2014

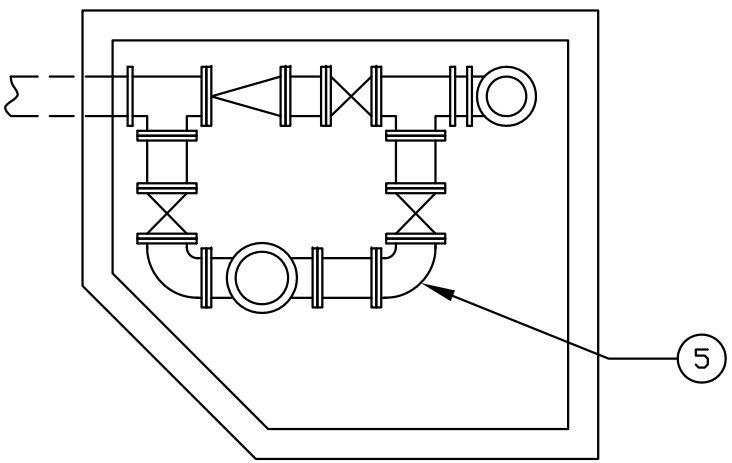


342 PARK AVENUE
WOONSOCKET, RI 02895
www.ceengineer.com

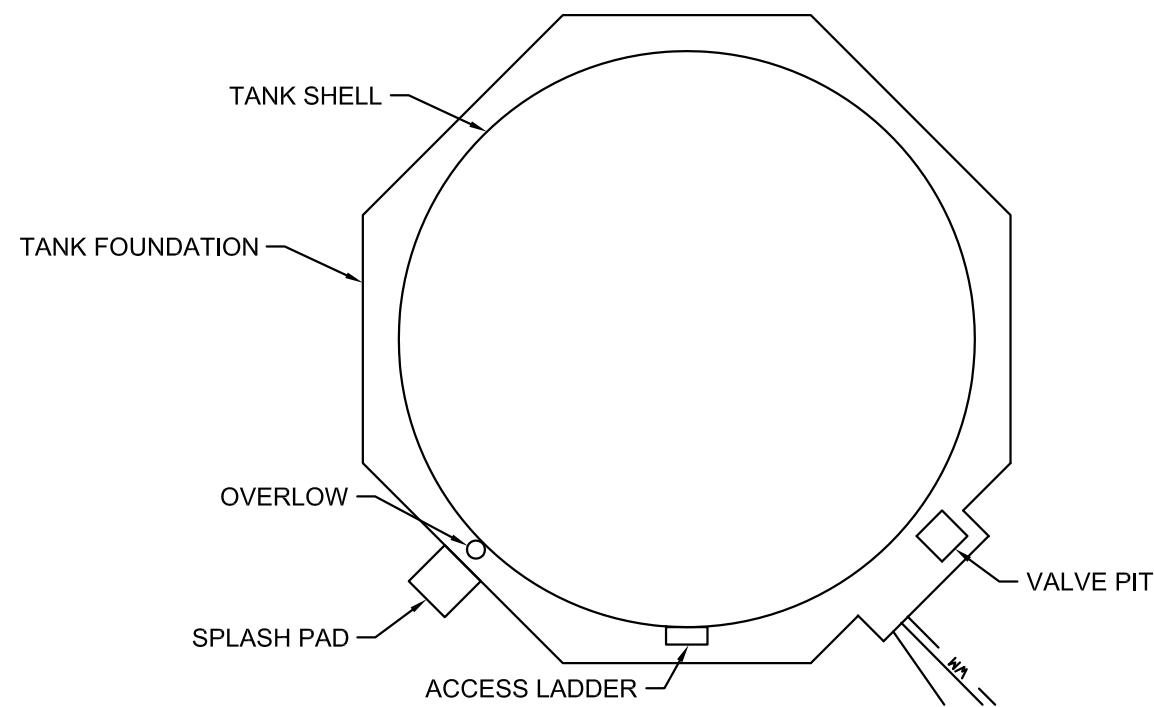
401.762.1711
Fax: 401.235.9088



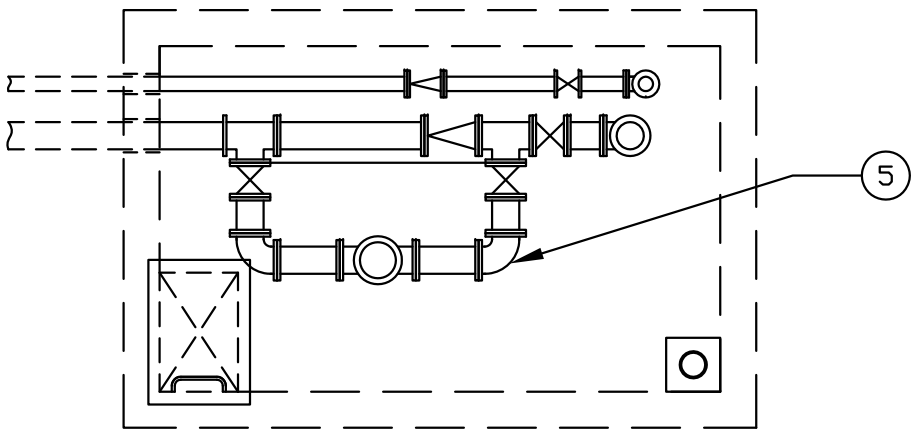
KINNEY AVENUE PARTIAL SITE PLAN
SCALE: 3/32" = 1'-0"



KINNEY AVENUE VALVE VAULT PLAN
SCALE: 3/16" = 1'-0"



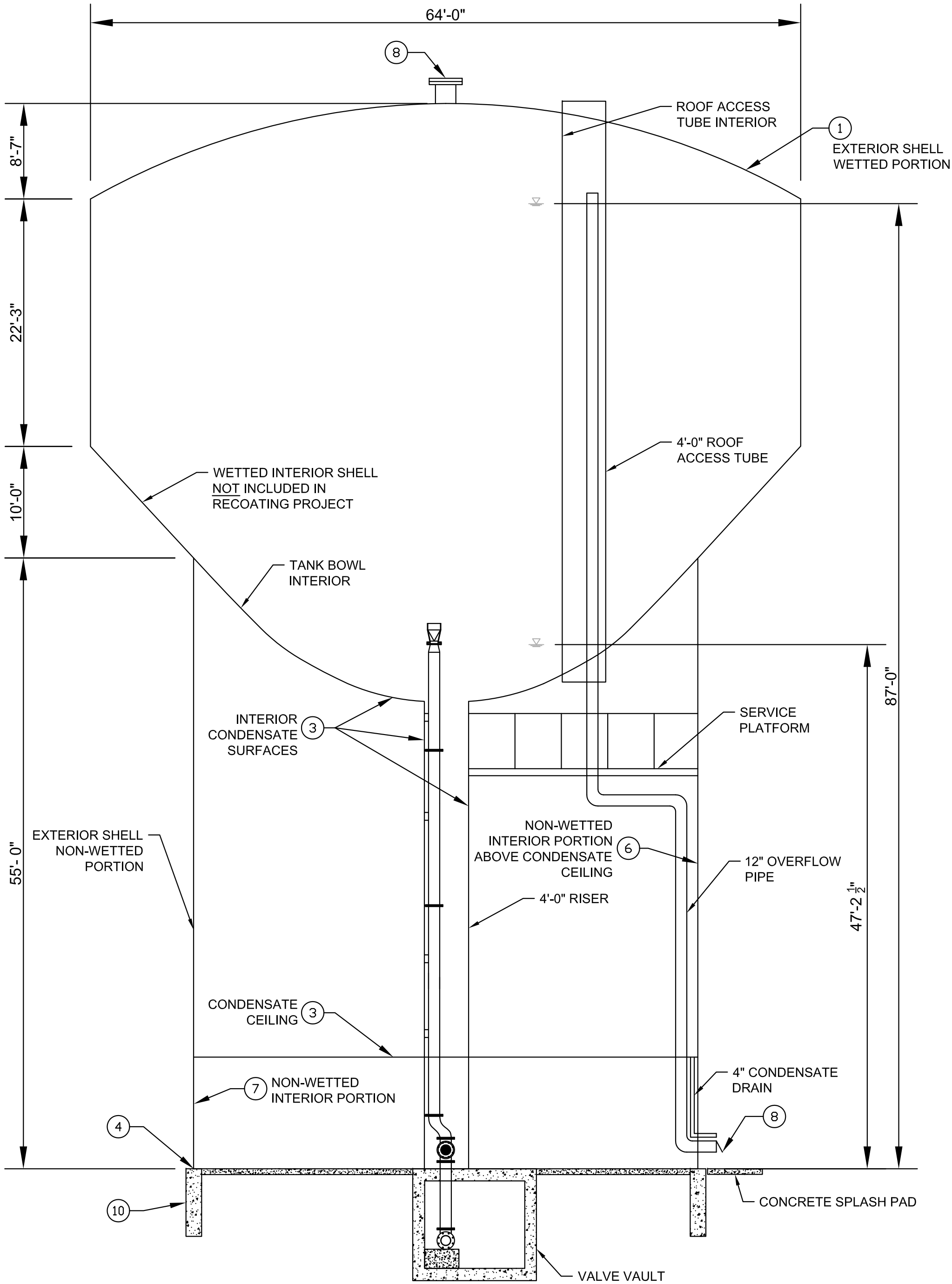
NORTH END PARTIAL SITE PLAN
SCALE: 3/32" = 1'-0"



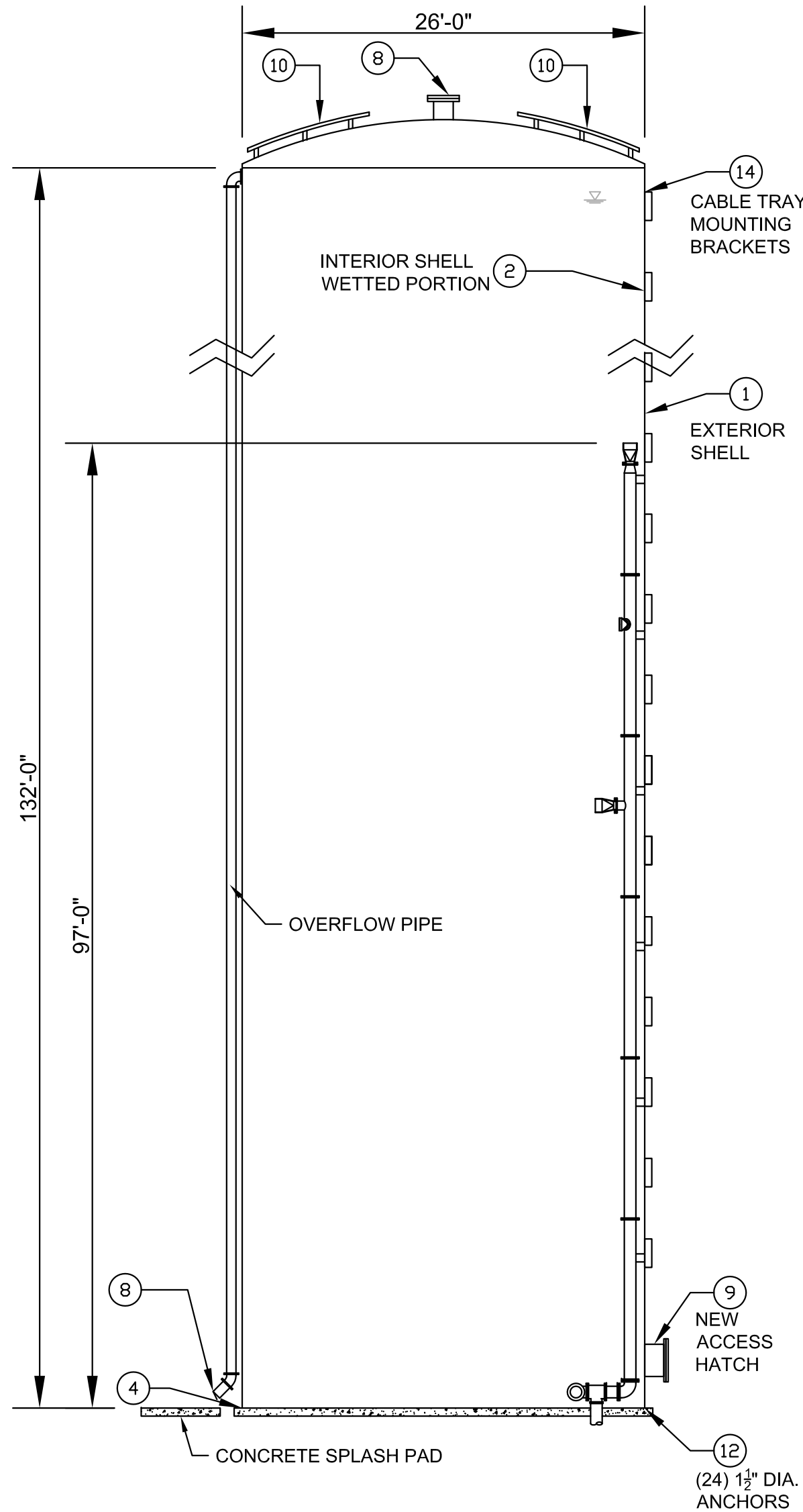
NORTH END VALVE VAULT PLAN
SCALE: 3/16" = 1'-0"

KINNEY AVENUE AND NORTH END STANDPIPE REHABILITATION LEGEND / NOTES

- 1 REMOVE EXISTING LEAD BASED COATING SYSTEMS AND RECOAT WATER STORAGE TANK EXTERIOR SURFACES AND APPURTANCES. (BOTH TANKS)
- 2 REMOVE EXISTING COATING SYSTEM, REPAIR AS NEEDED, AND RECOAT WATER STORAGE TANK INTERIOR SURFACES AND APPURTANCES. (NORTH END TANK ONLY)
- 3 REMOVE EXISTING COATING SYSTEM, REPAIRS NEEDED AND RECOAT INTERIOR CONDENSATION SURFACES INCLUDING ENTIRE RISER COLUMN (INTERIOR AND EXTERIOR) UNDERSIDE EXTERIOR OF TANK BOWL, TOP SURFACE OF CONDENSATE CEILING, SERVICE PLATFORM AND ROOF ACCESS TUBE INTERIOR. (KINNEY AVE TANK ONLY)
- 4 REMOVE ALL EXISTING MASTIC SEALANT, GROUT, AND FOREIGN MATERIAL FROM SPACE BETWEEN TANK FLOOR PLATE EXTENSION LIP AND CONCRETE FOUNDATION AT ENTIRE TANK PERIMETER (TO EXTENT POSSIBLE) PRIOR TO CLEANING AND RECOATING TANK EXTERIOR. PACK SPACE WITH NON - SHRINK GROUT AFTER TANK RECOATING IS COMPLETED AND FULLY CURED. SEE DETAIL SHEET D-1. (BOTH TANKS)
- 5 CLEAN AND RECOAT (PAINT) FILL/DRAW PIPING AND DRAIN PIPING IN VALVE CHAMBER INCLUDING PIPING IN VOID SPACE DIRECTLY UNDER TANK. PROTECT ALL EXISTING TELEMETRY AND INSTRUMENTATION SYSTEMS (NOT SHOWN) INSIDE THE CHAMBER FROM DAMAGE TEMPORARILY (RELOCATE IF NECESSARY) AND RECOAT DURING CLEANING AND RECOATING OPERATIONS. (BOTH TANKS) (ALT)
- 6 REMOVE EXISTING LEAD BASED COATING SYSTEM FROM NON-WETTED INTERIOR ABOVE CONDENSATE CEILING AREA AND RECOAT THESE INTERIOR SURFACES AND APPURTANCES. THESE INCLUDE INTERIOR WALLS OF FLUTED COLUMN (KINNEY AVE TANK ONLY)(ALT)
- 7 PREPARE AND RECOAT NON-WETTED SURFACES BELOW CONDENSATE CEILING. ACCESSIBLE AREAS ONLY. NO AREAS BEHIND OFFICE SPACE WALLS THE TOWN WILL BE RESPONSIBLE FOR THE REMOVAL OF OFFICE AND STORAGE AREA EQUIPMENT AND MATERIALS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COATING REMOVAL, REPAINTING AND FINAL CLEANUP OF ALL AREAS FOR REUTILIZATION OF AREAS FOR THEIR EXISTING USE. (KINNEY AVE TANK ONLY) (ALT)
- 8 REMOVE & DISPOSE EXISTING SCREENED VENT AND FURNISH & INSTALL NEW CLOG RESISTANT VENT WITH BIRD AND INSECT SCREENING AND PRESSURE AND VACUUM PALLET(S) CONFORMING TO CURRENT AWWA STANDARDS. WELD NEW STEEL FLANGE TO EXISTING ROOF OPENING PRIOR TO CLEANING AND RECOATING TANK EXTERIOR AND INSTALL NEW VENT WITH STAINLESS STEEL HARDWARE AFTER RECOATING IS COMPLETED AND CURED. (BOTH TANKS) (ALT)
- 9 FURNISH & INSTALL NEW 30-INCH DIAMETER FLANGED SIDE SHELL ACCESS MANWAY CONFORMING TO CURRENT AWWA STANDARDS. (NORTH END TANK ONLY) (ALT)
- 10 REMOVE ROTATING LADDER WHEELS AND SECURE LADDER TO TANK ROOF WITH NEW STEEL BAR STANDOFF BRACKETS (3 PAIRS EQUALLY SPACED) MATCH NOMINAL SIZE TO EXISTING SIDE SHELL LADDER SUPPORTS. EXACT LOCATION TO BE DETERMINED IN FIELD. CUT ROOF LADDER AND REMOVE ROTATING COLLAR FROM TANK VENT OPENING AFTER INSTALLING NEW STANDOFF SUPPORTS. GRIND CUT EDGES OF LADDER SIDE RAILS SMOOTH. CLEAN AND RECOAT ENTIRE LADDER AND NEW SUPPORTS ALONG WITH TANK EXTERIOR. FURNISH & INSTALL NEW OSHA COMPLIANT HANDRAILS WITH KICKPLATE AT TANK ROOF. COORDINATE INSTALLATION WITH EXISTING ACCESS LADDER, HANDRAILS TO EXTEND TO 8-FEET FROM EACH SIDE OF CAGE. SUBMIT HANDRAIL DESIGN AND ATTACHMENT DETAILS FOR REVIEW AND ACCEPTANCE PRIOR TO FABRICATION AND INSTALLATION. (NORTH END TANK ONLY) (ALT)
- 11 BRUSH BLAST OR POWER WASH CLEAN EXISTING CONCRETE FOUNDATION TO 16" BELOW GRADE AND TOP OF VALVE CHAMBER, AND REMOVE ALL FOREIGN MATERIAL. APPLY SIKADUR 55 SLV EPOXY RESIN CRACK HEALER PENETRATING SEALER TO ALL EXPOSED CONCRETE SURFACES, INCLUDING NEW GROUT BETWEEN FOUNDATION AND FLOOR PLATE EXTENSION LIP, REPAIR AS NECESSARY. (BOTH TANKS)
- 12 REPAIR AND/OR REFURBISH EXISTING ANCHOR CHAIR BOLTS, NUTS AND CHAIR ASSEMBLIES, AS REQUIRED (BOTH TANKS)
- 13 COORDINATE WITH CELLULAR TELECOMMUNICATIONS SYSTEM TENNET(S) AUTHORIZED REPRESENTATIVES AS NEEDED TO ACCOMMODATE ALL REQUIRED TANK REHAB. INSTALL CABLE TRAY MOUNTING ASSEMBLY AS DEEMED NECESSARY FOR ACCOMMODATION OF TELECOMMUNICATIONS WIRING. (BOTH TANKS) (ALT)
- 14 INSTALL CABLE TRAY MOUNTING BRACKETS (SEE SHEET D-1),(NORTH END TANK ONLY)(ALT)



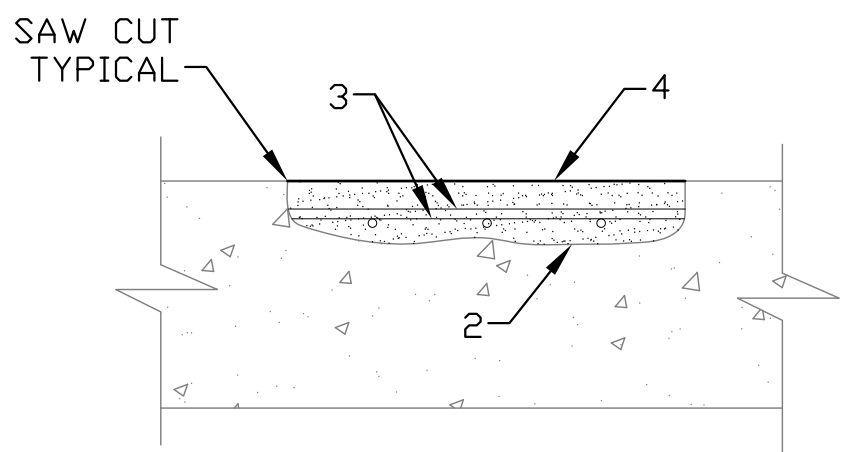
KINNEY AVENUE TANK SECTION
SCALE: 1/8" = 1'-0"



NORTH END TANK SECTION
SCALE: 1/8" = 1'-0"

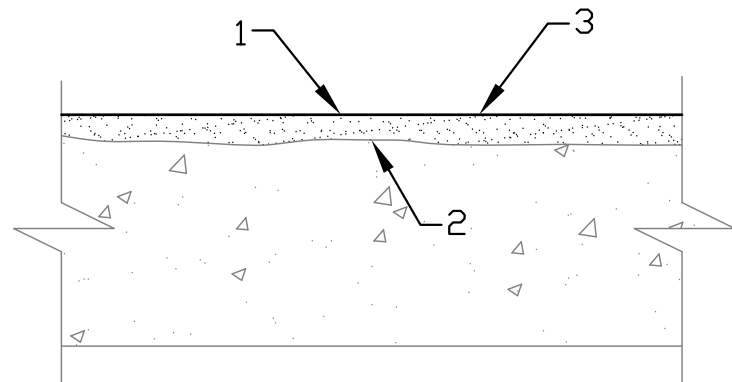
NOTE: ALL DIMENSIONS TAKEN FROM CBI CONSTRUCTION PLANS AND ARE SHOWN FOR INFORMATION ONLY.

C&E ENGINEERING CIVIL ENGINEERS, ENVIRONMENTAL PROJECTS.		342 PARK AVENUE WOONSOCKET, RI 02895 www.ceengineer.com 401.762.1711 Fax: 401.235.9088	
REHABILITATION OF KINNEY AVE AND NORTH END WATER STORAGE TANKS	TOWN OF NARRAGANSETT		
	NARRAGANSETT, RHODE ISLAND		
WATER STORAGE TANK REHABILITATIONS	DESIGNED BY: T.B.N.	DATE: 08/2014	CHECKED BY: J.S.G.
	DRAWN BY: J.A.S.	DATE: 08/2014	CHECKED BY: DATE:
PROJ. NO. J1034.03			
DWG. NO.			
C-1			



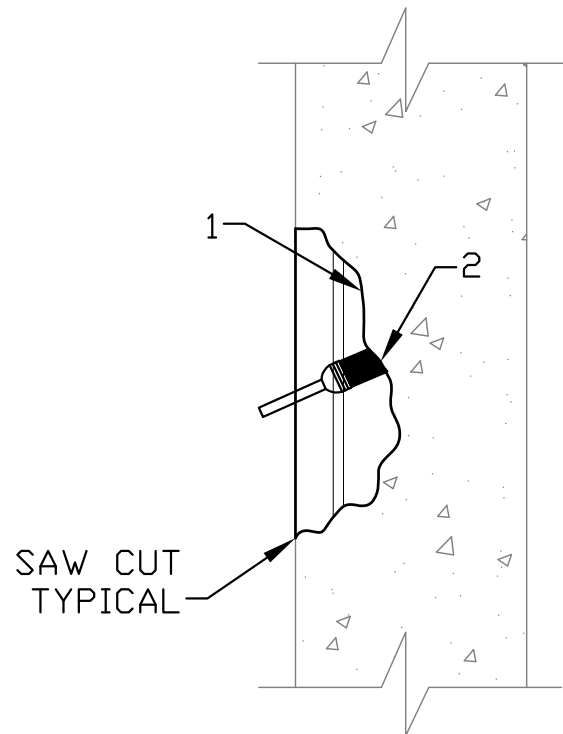
1. REPAIR AREA SHOULD NOT BE LESS THAN 1" IN DEPTH
2. SUBSTRATE SHOULD BE SATURATED SURFACE DRY (SSD) WITH NO STANDING WATER.
3. APPLY SIKA ARMATEC 110 EPOCEM BONDING BRIDGE TO SSD SURFACE AND EXPOSED REINFORCEMENT.
4. PLACE REPAIR MORTAR WHILE BONDING AGENT IS "WET" OR WITHIN THE OPEN TIMES LISTED IN THE MANUFACTURER'S LITERATURE.

POURABLE REPAIR
N.T.S.



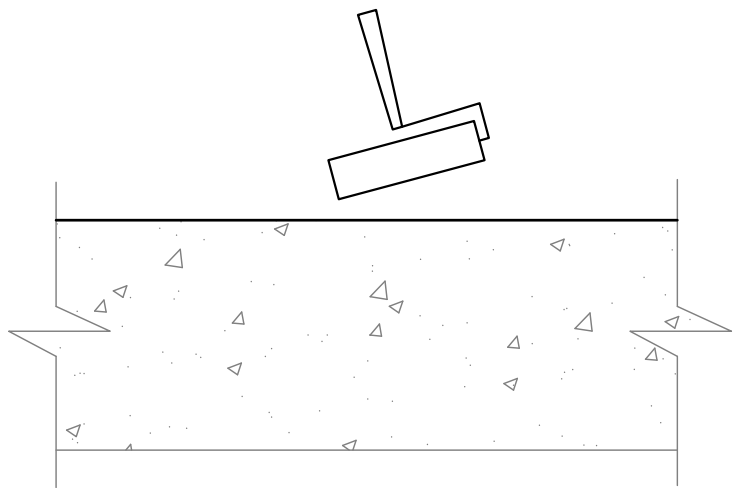
1. REPAIR AREA SHOULD NOT BE LESS THAN 1" IN DEPTH
2. SUBSTRATE SHOULD BE SATURATED SURFACE DRY (SSD) WITH NO STANDING WATER.
3. APPLY SIKA ARMATEC 110 EPOCEM BONDING BRIDGE TO SSD SURFACE AND EXPOSED REINFORCEMENT.
4. PLACE REPAIR MORTAR WHILE BONDING AGENT IS "WET" OR WITHIN THE OPEN TIMES LISTED IN THE MANUFACTURER'S LITERATURE.

OVERLAY REPAIR
N.T.S.



1. PRE-WET SURFACE TO SATURATE SURFACE DRY (SSD).
2. APPLY BY STIFF BRISTLE BRUSH OR SPRAY APPLY WITH "HOPPER TYPE" OR EQUAL EQUIPMENT.
3. PLACE REPAIR MATERIAL WHILE SIKA ARMATEC 110 EPOCEM IS STILL WET OR WITHIN INDICATED OPEN TIMES.

BONDING AGENT APPLICATION
N.T.S.

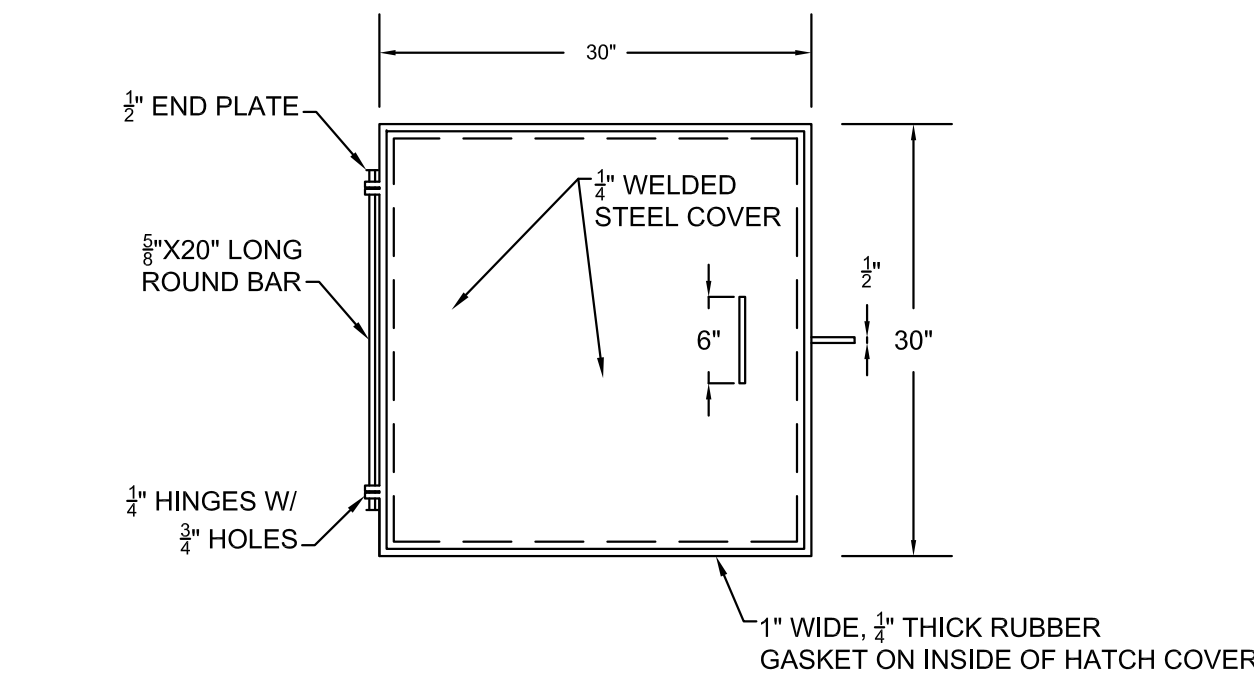
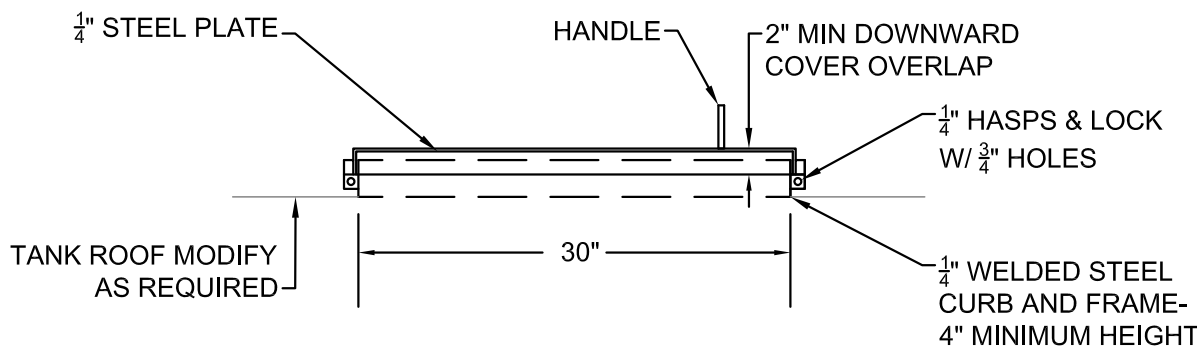


1. SURFACE MUST BE CLEAN, SOUND AND FREE OF STANDING WATER.
2. APPLY SIKAGARD 701W Laterally by roller, brush (horizontal surface) or spray.

NOTE: WHEN SPRAYING, IT IS ADVISABLE TO USE HAND-PRESSURE EQUIPMENT RATHER THAN COMPRESSED-AIR DRIVE

SEALANT APPLICATION
N.T.S.

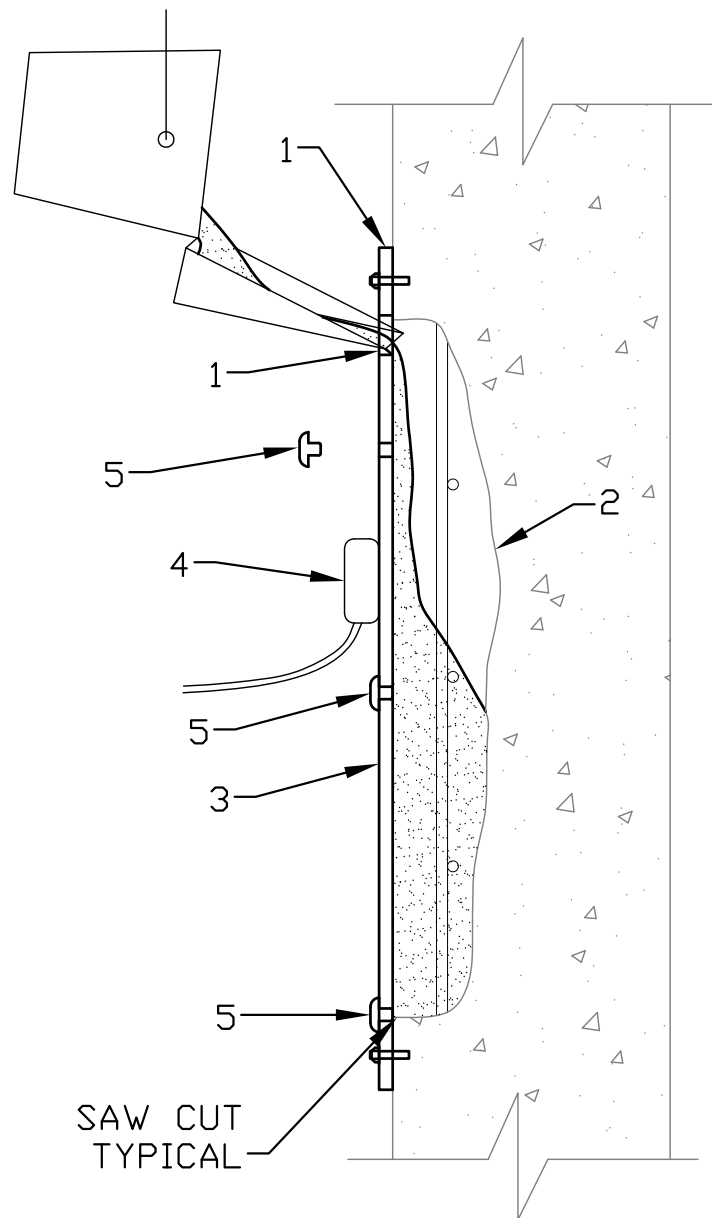
CONCRETE FOUNDATION REPAIR DETAILS
N.T.S.



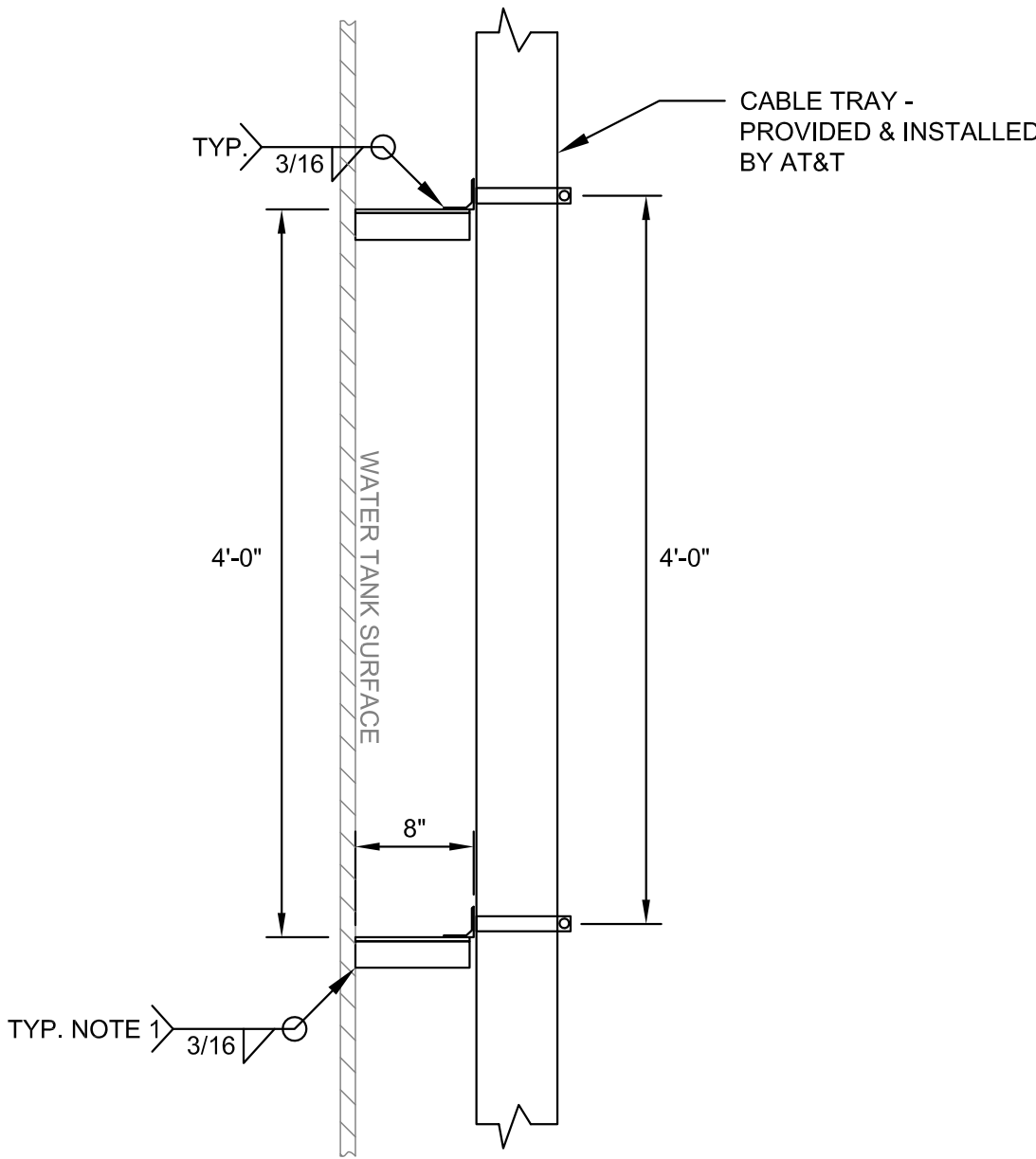
ROOF ACCESS HATCH (ALTERNATE)
N.T.S.

1. CONSTRUCT FORM TO SIZE AND INSTALL FORM ANCHORS. INSTALL FORM TO MAKE CERTAIN FORM ANCHORS LINE UP AND FORM IS TIGHT AGAINST EXISTING SURFACES. CHIP SPOT FOR POUR BOX, REMOVE FORM. STORE FORM UNTIL READY FOR POURING CONCRETE PATCH.
2. PRE-WET SURFACE TO SATURATED SURFACE DRY AND APPLY SIKA ARMATEC 110 EPOCEM BONDING AGENT IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS - PAY SPECIAL ATTENTION TO CURING TIMES VS. AMBIENT TEMPERATURES.
3. APPLY REALEASE AGENT TO FORM IF PLASTIC LINED PLYWOOD IS NOT USED. SET FORM CONSTRUCTED IN STEP ONE AND SECURE TO EXISTING CONCRETE.
4. VIBRATE FORM WHILE POURING REPAIR MORTAR.
5. VENT TO BE CAPPED WHEN STEADY FLOW IS EVIDENT.
6. STRIP FORM WHEN APPROPRIATE.
7. DRY PACK ANCHORS HOLES WITH SIKA MORTAR.

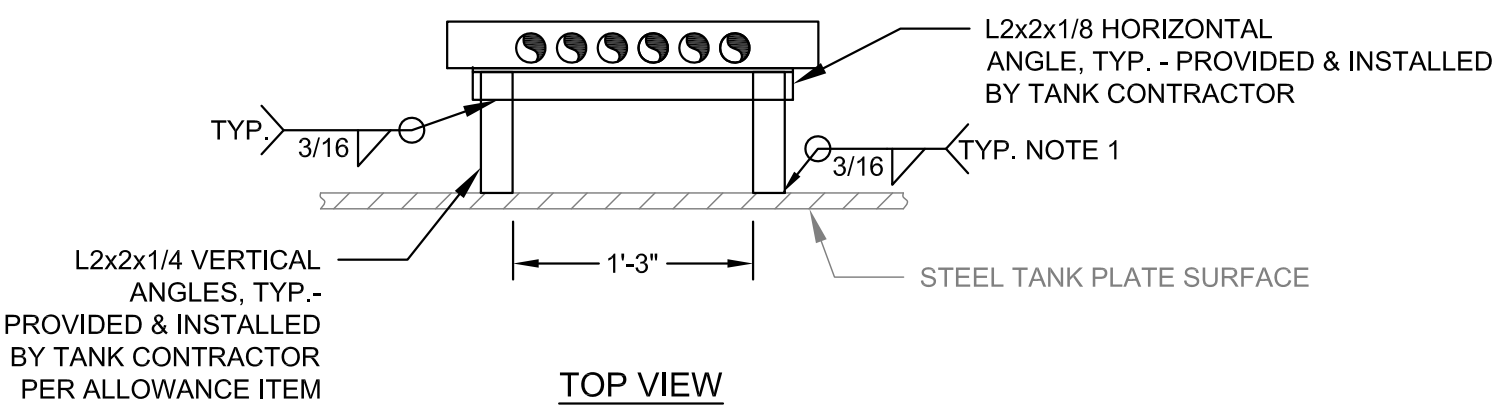
POURING CONCRETE PATCH:



FORM AND POUR
N.T.S.



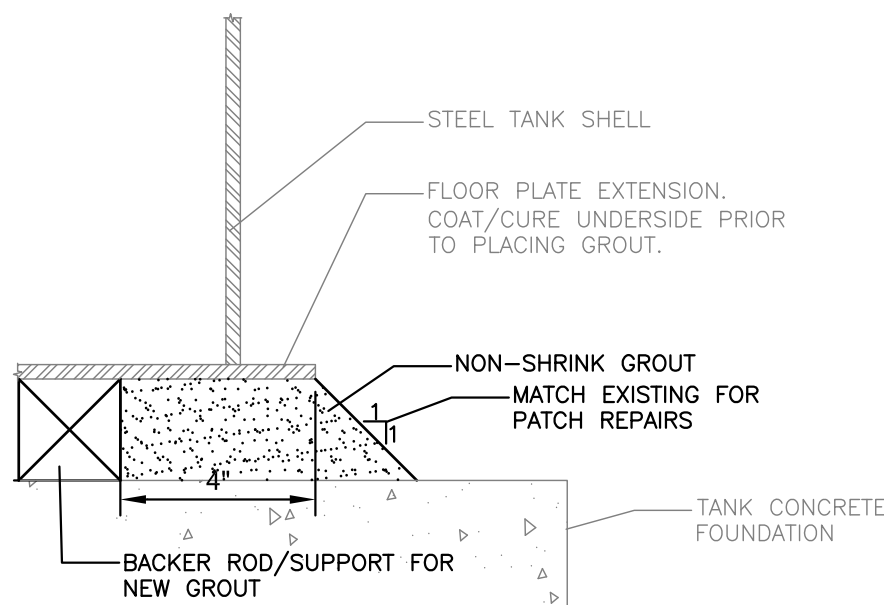
SIDE VIEW



TOP VIEW

NOTE 1: PREPARE TANK SURFACE AND ANGLES IN ACCORDANCE WITH AT&T SPECIFICATIONS. UPON COMPLETION OF WELD, PRIME AND PAINT CONNECTIONS PER TOWN'S REQUIREMENTS.

CABLE TRAY MOUNTING BRACKETS (ALTERNATE)
N.T.S.



NOTE: APPLY & CURE GROUT PRIOR TO APPLYING CONCRETE PROTECTIVE COATINGS

GROUT FILL AT CONCRETE FOUNDATION
N.T.S.

REHABILITATION OF KINNEY AVE AND NORTH END WATER STORAGE TANKS	TOWN OF NARRAGANSETT			
	NARRAGANSETT, T.B.N.	RHODE ISLAND DESIGNED BY: DATE:	CHECKED BY: DATE:	CHECKED BY: DATE:
DETAILS	J.A.S.	08/2014	J.S.G.	08/2014
PROJ. NO.	J1034.03			
DWG. NO.	D-1			




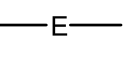





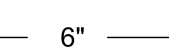











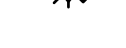

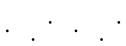

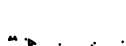

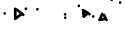

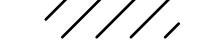











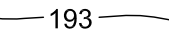




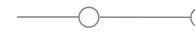
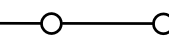
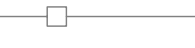



GENERAL NOTES

1. INFORMATION AS SHOWN ON THE DRAWINGS RELATING TO MATERIALS, CONDITIONS AND/OR LOCATIONS OF EXISTING STRUCTURES AND UTILITIES HAS BEEN COMPILED FROM BEST AVAILABLE INFORMATION INCLUDING LIMITED FIELD MEASUREMENTS, RECORD PLANS AND DRAWINGS AND IS NOT GUARANTEED COMPLETE. THE CONTRACTOR SHALL LOCATE ALL UTILITIES BEFORE BEGINNING CONSTRUCTION. ANY COSTS FOR REPAIR OR REPLACEMENT OF SUCH DAMAGED UTILITIES OR STRUCTURES SHALL BE BORNE BY THE CONTRACTOR.
2. ALL PROPOSED WORK IS TO TAKE PLACE ON PROPERTIES OWNED OR CONTROLLED BY THE TOWN OF NARRAGANSETT WATER DEPARTMENT. ALL OPERATIONS AND ACTIVITIES SHALL BE CONFINED TO THE LIMITS OF SAID OWNED PROPERTY.
3. CONTRACTOR IS HEREBY PUT ON NOTICE THAT THE PROJECT SITE CONSISTS OF AN ACTIVE PUBLIC WATER SUPPLY, STORAGE FACILITY AND VARIOUS INFRASTRUCTURE. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS AND EMPLOY ADEQUATE MEANS AND METHODS TO INSURE THE SAFETY AND INTEGRITY OF THIS FACILITY AND INFRASTRUCTURE AS WELL AS ABUTTING PROPERTIES TO THE SITE. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING PROPOSED WORK AND FOR MAINTAINING OPERATIONS FOR DELIVERY AND STORAGE OF POTABLE WATER DURING ALL CONSTRUCTION PHASES AS REQUIRED.
4. CONTRACTOR SHALL SECURE AND PAY FOR ALL NECESSARY PERMITS, POST REQUIRED BONDS, SUPPLY THE NECESSARY NOTICES AND SECURE REQUIRED APPROVALS PRIOR TO BEGINNING ANY WORK.
5. ALL AREAS DISTURBED BY THE CONTRACTOR OUTSIDE OF THE IDENTIFIED LIMITS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT NO ADDITIONAL EXPENSE TO THE OWNER. UPON COMPLETION OF THE WORK, ALL DISTURBED AREAS SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THAT, WHICH EXISTED PRIOR TO CONSTRUCTION.
6. CONTRACTOR IS HEREBY NOTIFIED THAT THE EXTERIOR COATING SYSTEMS ON THE STEEL TANK FACILITIES HAVE BEEN CONFIRMED TO CONTAIN LEAD. CONTRACTOR SHALL TAKE ALL DUE CARE AND PRECAUTION DURING THE COURSE OF THE WORK INCLUDING ADHERENCE TO ALL REGULATIONS, PERMITS, NOTICES, ETC. THAT MAY BE REQUIRED BY REGULATORY AGENCIES.
7. DISPOSAL OF EXCESS OR SURPLUS MATERIALS INCLUDING WASTE LEAD BASED COATING MATERIALS OR MATERIALS IDENTIFIED TO BE REMOVED AND DISPOSED SHALL BE PROPERLY PERFORMED OFF SITE AND ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
8. EROSION CONTROL OF DISTURBED AREAS SHALL BE PROVIDED TO ACCOUNT FOR WEATHER CONDITIONS AND OPERATIONS DURING CONSTRUCTION. EROSION CONTROL SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION AND UNTIL ALL DISTURBED SURFACES ARE STABILIZED.
9. THE CONTRACTOR SHALL CALL DIGSAFE AT 1-888-344-7233 AT LEAST 72 HOURS PRIOR (SATURDAYS, SUNDAYS AND HOLIDAYS EXCLUDED) TO EXCAVATING AT ANY LOCATION. A COPY OF THE DIGSAFE PROJECT REFERENCE NUMBER(S) SHALL BE PROVIDED TO OWNER PRIOR TO START OF PROJECT. CONTRACTOR SHALL ALSO NOTIFY ALL UTILITIES WHICH ARE NOT A PARTICIPATING MEMBER OF DIGSAFE.
10. THE CONTRACTOR SHALL MAINTAIN A SET OF RECORD AS BUILT DRAWINGS TO BE SUBMITTED TO OWNER AT END OF PROJECT.
11. PRIOR TO BIDDING THE PROJECT, CONTRACTOR AND ALL MAJOR SUBCONTRACTORS SHALL VISIT THE PROJECT SITE. ALL SITE VISITS SHALL BE COORDINATED WITH OWNER.
12. THE EXACT LOCATION OF NEW EQUIPMENT, STRUCTURES, MATERIALS AND RELATED APPURTENANCES SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE OWNER OR OWNER'S ONSITE AUTHORIZED REPRESENTATIVE.
13. TANK STRUCTURE AND DETAILS DEPICTED ON THESE DRAWINGS INDICATE GENERAL TANK ARRANGEMENTS AND LOCATION OF APPURTENANCES. TANK STRUCTURE MODIFICATIONS SHALL CONFORM TO AWWA D100 OR AWWA D110, LATEST EDITION - AS APPLICABLE.
14. CONTRACTOR SHALL TAKE NOTE OF REQUIREMENTS FOR "PRE-QUALIFICATION" AND EXPERIENCE RELATED TO THIS PROJECT CONTAINED IN THE PROJECT MANUAL AND SPECIFICATIONS. THE CONTRACTOR IS NOTIFIED THAT THE WORK TO BE PERFORMED AND THE MEASUREMENTS, METHOD AND PAYMENT SCHEDULE SHALL BE AS SHOWN ON THE CONTRACT DRAWINGS AND DESCRIBED IN THE SPECIFICATIONS. IN CASE OF CONFLICT BETWEEN THE CONTRACT DRAWINGS AND SPECIFICATIONS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.
15. IN NO CASE WILL "STANDARDS OF THE INDUSTRY", "PREVAILING PRACTICE" OR OTHER PURPORTED PRECEDENCE BE APPROVED OR CONSIDERED IN RELATION TO MATTERS OF MEASUREMMENT AND/OR PAYMENT.
16. CONTRACTOR IS RESPONSIBLE FOR ALL MATTERS RELATED TO SITE SAFETY AND SECURITY DURING ALL CONSTRUCTION OPERATIONS. THE PROJECT SITE SHALL BE SECURED WITH ADEQUATE TEMPORARY FENCING, BARRICADES, SIGNAGE, ETC. AS REQUIRED TO RESTRICT PUBLIC ACCESS AND TO PROTECT THE GENERAL PUBLIC.
17. CONTRACTOR SHALL PROVIDE ADEQUATE MEANS AND METHODS OF SITE ACCESS TO AUTHORIZED WATER DEPARTMENT PERSONNEL DURING THE COURSE OF THE PROJECT FOR PURPOSES OF NORMAL OPERATION AND MAINTENANCE OF THE WATER SYSTEM.
18. THE KINNEY AVENUE AND NORTH END WATER STORAGE SITE INCLUDING THE TANK STRUCTURE CONTAINS EQUIPMENT AND MATERIALS OWNED, MAINTAINED AND OPERATED BY PRIVATE CELLULAR COMMUNICATION COMPANIES. THE TOWN HAS ADVISED THESE COMPANIES OF THIS PROJECT AND HAS ADVISED FOR THE TEMPORARY RELOCATION OF THESE FACILITIES. THE CONTRACTOR SHALL COORDINATE WITH THESE COMPANIES THROUGH THEIR RESPECTIVE REPRESENTATIVES THROUGHOUT THE PROJECT.
19. CONTRACTOR TO REFERENCE THE BID FORM AND SECTION 13850- CELLULAR ANTENNA EQUIPMENT WORK AND COORDINATION FOR ADDITIONAL INFORMATION. AN ALLOWANCE ITEM HAS BEEN ESTABLISHED ON THE BID FORM FOR THE CONTRACTOR IN COORDINATING THE WORK EFFORT WITH THE TELECOMMUNICATION EQUIPMENT COMPANY.
20. ANY COMPENSATION FOR EFFORTS DUE TO THE CONTRACTOR THAT IS ASSOCIATED WITH ASSISTING THESE PRIVATE CELLULAR COMMUNICATION COMPANIES SHALL BE MADE BY THE CELLULAR COMPANY THROUGH MUTUAL AGREEMENT BETWEEN THE PARTIES. THE TOWN SHALL NOT PROVIDE ANY COMPENSATION TO CONTRACTOR FOR WORK THAT IS OUTSIDE THE SCOPE OF THIS CONTRACT AND RELATED TO CELLULAR COMPANY ASSISTANCE OR COORDINATION.
21. BOTH WATER STORAGE TANKS HAVE AN INTERNAL MIXING SYSTEM OF THE "TIDE-FLEX" TYPE. THE CONTRACTOR WILL NOT DISTURB THESE SYSTEMS OR IF IT IS DEEMED NECESSARY THAT THESE SYSTEMS BE TEMPORARILY DISASSEMBLED, IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO RETURN THESE SYSTEMS TO THEIR COMPLETE FUNCTIONALITY. THE MIXING SYSTEMS, ASIDE FROM STEEL BRACKET SHALL NOT BE PAINTED.
22. THE TWO WATER STORAGE TANKS ARE OF A CRITICAL NATURE TO THE OPERATION OF THE TOWN'S WATER SYSTEM. THE CONTRACTOR SHALL NOT ASSUME THAT THESE TANKS CAN BE REMOVED FROM SERVICE DURING PEAK DEMAND PERIODS OR CAN BE REMOVED FROM SERVICE AT THE SAME TIME. THE REMOVAL OF THESE FACILITIES FROM THE WATER SYSTEM MUST BE CLOSELY COORDINATED WITH THE TOWN'S WATER DEPARTMENT AND ENGINEERING DEPARTMENT.
23. UNDER THE SCOPE TASK ITEM " MISC. ELECTRICAL WORK" THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND REINSTALLATION OF ALL ELECTRICAL COMPONENTS ON BOTH WATER TANKS AS NECESSARY TO FACILITATE THE REQUIRED COATING OR REHABILITATION ACTIVITIES. ANY ELECTRICAL WORK COMPLETED AS PART OF THIS TASK SHALL BE IN COMPLETE ACCORDANCE WITH ALL APPLICABLE ELECTRICAL CODES AND ANY REQUIRED PERMITS WILL BE THE RESPONSIBILITY OF THE PAINTING CONTRACTOR.

ABBREVIATIONS

Ø	DIAMETER
°	DEGREES
@	AT
~	APPROXIMATELY
<	LESS THAN
>	MORE THAN
AFG	ABOVE FINISHED GRADE
ALT	ALTERNATE BID ITEM
ALUM	ALUMINUM
AP	ASSESSOR'S PLAT
APPROX	APPROXIMATELY
BFV	BUTTERFLY VALVE
BIT	BITUMINOUS
BLDG	BUILDING
CB	CATCH BASIN
CI	CAST IRON
CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
CONT	CONTINUOUS
DET	DETAIL
DI	DUCTILE IRON
DIA	DIAMETER
DN	DOWN
DR	DOOR
DRIVE	DRIVEWAY
DWG	DRAWING
E	ELECTRICAL
EIFS	EXTERIOR INSULATION AND FINISHING SYSTEM
EPDM	ETHYLENE PROPYLENE DIENE METHYLENE
EL	ELEVATION
EOP	EDGE OF PAVEMENT
EXIST	EXISTING
FF	FINISH FLOOR
FIN	FINISH
FDN	FOUNDATION
(fnd)	FOUND
FL	FLOOR
FM	FORCEMAIN
FS	FIRE SHEILD
GALV	GALVANIZED
GV	GATE VALVE
GPM	GALLONS PER MINUTE
GWB	GYPSPUM WALL BOARD
HD	HEAD
HDPE	HIGH-DENSITY POLYETHYLENE
HP	HIGH POINT
HR	HOUR
HT	HEIGHT
HW	HARDWARE
INSUL	INSULATION
ID	IDENTIFICATION
IP	IMPULSE PIPES
INV	INVERT
JT	JOINT
LP	LOW POINT
MAT	MATERIAL
MAX	MAXIMUM
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MIN	MINIMUM
MJ	MECHANICAL JOINT
MTL	METAL
N/F	NOW OR FORMERLY
NECO	NARRAGANSETT ELECTRIC COMPANY
NGVD	NATIONAL GEODETIC VERTICAL DATUM
NO	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIMENSION OR DIAMETER
PSI	POUNDS/SQUARE INCH
PC	PRECAST
PM	PRESS METAL
PTD	PAINTED
PVC	POLYVINYL CHLORIDE
R&D	REMOVE & DISPOSE
RM	ROOM
REQ'D	REQUIRED
RI	RHODE ISLAND
RIDOT	RHODE ISLAND DEPARTMENT OF TRANSPORTATION
S	SLOPE
SCH	SCHEDULE
SF	SQUARE FEET
SHT	SHEET
SIM	SIMILAR
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STR	STRUCTURAL
SYM	SYSTEM
THK	THICKNESS
TOC	TOP OF CONCRETE
TOM	TOP OF MASONRY
TS&V	TAPPING SLEEVE & VALVE
TYP	TYPICAL
UP	UTILITY POLE
W	WATER
W/	WITH
WCS	WATER CURB STOP
WD	WIDTH OR WOOD

LEGEND

EXISTING		PROPOSED
	UTILITY POLE	
	UNDERGROUND ELECTRICAL WIRES	
	OVERHEAD WIRE	
	WATER LINE	
	PIPES 10" Ø & SMALLER	
	PIPES 12" Ø & LARGER	
	WATER CURB STOP	
	END CAP	
	GATE VALVE	
	HYDRANT	
	EOP/GRAVEL	
	PAVEMENT/GRAVEL	
	CONCRETE	
	BUILDINGS	
	REMOVE & DISPOSE	
	PROPERTY LINE	
	HAYBALES	
	GRANITE BOUND	
	STONE WALL	
	TOPO LINES	
	SPOT ELEVATION	
	WETLANDS FLAG	
	CHAIN LINK FENCE	
	WOOD FENCE	
	TREE LINE	
	HEDGE	

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TOWN OF NARRAGANSETT

NARRAGANSETT, RHODE ISLAND

DESIGNED BY: T.B.N.	DATE: 08/2014	CHECKED BY: J.S.G.	DATE: 08/2014
DRAWN BY: J.A.S.	DATE: 08/2014	CHECKED BY:	DATE:

REHABILITATION OF
KINNEY AVE AND NORTH END
WATER STORAGE TANKS

GENERAL NOTES

PROJ. NO. J1034.03

DWG. NO.

G-1